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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: PEMBERTON, ET AL.

Serial No.: 10/734,461

Filed: 12/12/2003

Title: METHOD AND DEVICE FOR PREVENTING PETS FROM CLAWING
HOME FURNISHINGS

Examiner: Mark A. Osele

Art Unit: 1734

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

The undersigned hereby certifies that the following documents:

- 1) Response to Notice of Non-Compliant Appeal Brief;
- 2) Claims Appendix;
- 3) Evidence Appendix;
- 4) Related Proceedings Appendix;
- 5) Transmittal letter (in duplicate);
- 6) Certificate of Mailing by First Class Mail; and
- 7) A postcard receipt.

relating to the above application, were deposited as first class mail with the United States Postal Service, addressed to Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on **May 30, 2007**.



Mailer

Schultz & Associates, P.C.

INTELLECTUAL PROPERTY ATTORNEYS



May 30, 2007

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Re: U. S. Patent Application Serial No. 10/734,461
"Method and Device For Preventing Pets From Clawing Home Furnishings"
Atty. Docket: 31960.0104

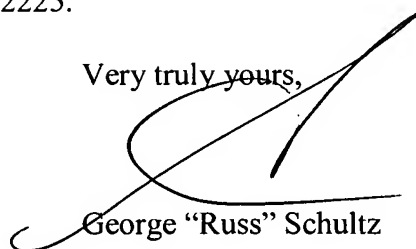
Sir:

Enclosed for filing are the following documents:

- 1) Response to Notice of Non-Compliant Appeal Brief;
- 2) Claims Appendix;
- 3) Evidence Appendix;
- 4) Related Proceedings Appendix;
- 5) Transmittal letter (in duplicate);
- 6) Certificate of Mailing by First Class Mail; and
- 7) A postcard receipt.

The Commissioner is hereby authorized to charge any underpayment of fees, or credit any overpayment, to Deposit Account No. 50-2225.

Very truly yours,



George "Russ" Schultz

GRS:kn
Enclosures



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: PEMBERTON, ET AL.

Serial No.: 10/734,461

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For: METHOD AND DEVICE FOR PREVENTING PETS FROM
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Mail Stop Appeal Brief - Patents
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Alexandria, VA 22313-1450

RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF

Sir:

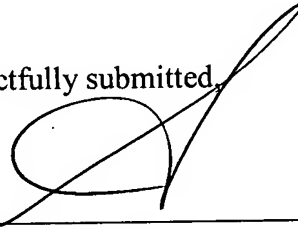
With respect to the Notice of Non-Compliant Appeal Brief mailed May 3, 2007,
Appellants respectfully submit the following:

On May 4, 2007, Appellants filed the Claims Appendix, the Evidence Appendix,
and the Related Proceedings Appendix pursuant to 37 C.F.R 41.37(c)(1) associated with
the Appeal Brief. However, in an abundance of caution, Appellants re-submit the Claims
Appendix, the Evidence Appendix, and the Related Proceedings Appendix as required in
the Notice.

Appellants believe no fees are due; however, the Commissioner is hereby authorized to charge any additional fee that may be due in connection with this Appeal Brief or to credit any overpayment to Deposit Account No. 50-2225.

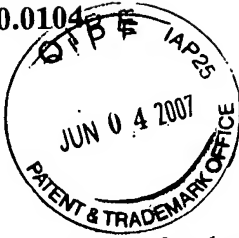
Dated: May 30, 2007

Respectfully submitted,

A handwritten signature in black ink, consisting of a large, stylized 'G' followed by a diagonal stroke, positioned above a horizontal line.

George R. Schultz
Reg. No. 35,674

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CLAIMS APPENDIX

1. A device for deterring pets from scratching fabric of home furnishings comprising:

a continuous, unperforated and generally planar transfer sheet;

a plurality of continuous unperforated rectangular strips, each of the strips having a length substantially greater than its width, the strips being arranged side-by-side on the transfer sheet, each of the strips having first and second adhesive surfaces on opposite sides, each of the strips being releasably adhered to the transfer sheet on the first adhesive surface;

a plurality of continuous unperforated release layers, each of the release layers being completely bisected along an axis parallel to the length of the strip and each of the release layers having a length substantially the same as the length of each of the strips, each of the release layers releasably adhered on the second adhesive surface of the strips;

wherein the strips are adapted to be removed from the transfer sheet and releasably adhered to the home furnishing on the first adhesive surface, and the release layers are adapted to be removed from the second adhesive surface revealing the second adhesive surface; and

wherein the first and second adhesive surfaces are formulated from an adhesive of sufficient tack strength to cause a releasable sticking sensation.

2. The device of claim 1 wherein said strips are uniformly spaced apart from one another by gaps on the transfer sheet that are parallel to the length of the strips and are of a width that is equal to a substantial fraction of the width of the strips to provide an indication of

an edge of the plurality of strips and the bisection of the plurality of strips to facilitate manual removal of the strips from the transfer sheet.

3. The device of claim 1 wherein the strips are separated by a side margin indicator means for preventing confusion between a bisection cut in each release layer and a side margin of the strips that has a width that is a significant fraction of the width of the strips.
42. A device for deterring pets from contacting soil comprising:
 - a substantially rigid corrugated substrate;
 - a strip having a first adhesive surface and a second adhesive surface, the strip releasably adhered to the corrugated substrate on the first adhesive surface; and,
 - a release layer adhered on the second adhesive surface.
43. The device of claim 42 wherein the substrate is plastic.
44. The device of claim 42 wherein the substrate is colored to match soil.
45. The device of claim 42 wherein the release layer further comprises two separately removable portions wherein a first removable portion and a second removable portion abut but do not overlap a central longitudinal axis of the strip.
47. The device of claim 45 wherein a plurality of strips are placed side by side on the corrugated substrate separated by a gap having a width which is a substantial fraction of the width of the strips.

EVIDENCE APPENDIX

Evidence submitted pursuant to 37 CFR §1.130, 1.131, 1.132 relied upon by appellant in this appeal:

Declaration of Bonnie Pemberton, inventor – attached

Declaration of Chris Ruben, a sales executive familiar with the products incorporating the invention – attached

Supplemental Declaration of Bonnie Pemberton, inventor – attached

The Declarations of Bonnie Pemberton and Chris Ruben were submitted September 6, 2006 in an Amendment and Response to an Office Action of March 6, 2006. The Declarations were considered by the Examiner in an Office Action mailed September 25, 2006. The Supplemental Declaration of Bonnie Pemberton was submitted March 16, 2007 and has yet to be considered by the Examiner.

Evidence relied upon by the Examiner in rejecting the claims:

U.S. Patent No. 2,744,624 to *Hoogstoel et al.* – attached

Italian Patent No. 590156 to *Avery Adhesive Label Corp.* – attached

U.S. Patent No. 2,096,389 to *Bode* – attached

U.S. Patent No. 4,348,440 to *Kriozere* – attached

U.S. Patent No. 5,168,831 to *Ittershagen et al.* – attached

Avery Index Maker Packaging to *Avery Dennison* – attached

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: PEMBERTON ET AL.

Serial No.: 10/734,461

Filed: 12/12/2003

For: "Method and Device for Preventing Pets from Clawing Home
Furnishings"

Examiner: Mark A. Osele

Art Unit: 1734

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF BONNIE PEMBERTON

1. My name is Bonnie Pemberton. I am the inventor of the invention disclosed in the above-noted application. I am over 21 years of age, of sound mind and willing and able to make the following Declaration.
2. I am a college graduate, having graduated from Texas Wesleyan University with a degree in business. While I have sold pet products for many years, I am not an expert in the field of plastics, adhesives or adhesive tapes. Moreover, I am not an expert in the field of packaging. I consider myself one of ordinary skill in the art when it comes to the subject matter of the invention disclosed in the application.
3. I have used the invention described in the application as the basis for my business, Fe-Lines, Inc. Fe-Lines, Inc. is a Texas corporation in good standing and has been in business since about 1981.
4. Fe-Lines, Inc. is in the business of selling pet products to distributors and the public. The pet products include many items, but specifically include the invention of the application. The company sells several embodiments of the invention including a "flat" version and a "corrugated" version. The "flat" version incorporates the elements of claim 1 of the patent application among others. The "corrugated" version incorporates the elements of claim 42 of the patent application among others. A copy of a picture of the "flat" version is attached to this Declaration as Exhibit A. A copy of a picture of the "corrugated" version of the invention is

attached as Exhibit B.

5. The invention has been a huge commercial success.

6. For example, Fe-Lines, Inc. began selling the claimed invention in 1996. At the outset, our sales figures began to climb rapidly from \$26,000 in 1996, to \$1 Million in 2005. This equates to a jump in sales of about 3,250 units per year to just over 203,000 per year. Since its inception, the company has sold over 1,500,000 packages of products incorporating the claimed invention.

7. I estimate the size of the market for those particular products to be about \$1,500,000.00 per year. Our percentage of that market or market share I estimate to be approximately 70-80%.

8. Over the years, our market share has grown. With the appearance of similar products, our market share has grown from 0% to almost 80% in less than 10 years.

9. The only prior art that is directly related to my invention that I am aware of is double sided tape offered by 3-M Company. The tape has a different construction. The tape includes a long coiled strip with a "non-sticky" layer on one side. It is very difficult to apply because it comes off the roll with a sticky side and is difficult to handle. It doubles back on itself and the adhesive side tends to come in contact with itself, snarling the application of the product. The advantages of the invention among others prevent this problem by providing bisected release layers which allow the product to be positioned with two non-sticky surfaces before the base layer and release layer are removed. The "two-part" release layer is also helpful in applying the product and is a huge advantage over the prior art.

10. In regards to the "flat embodiment", I have received praise from customers regarding the claimed features of the invention. Specifically, customers have expressed the advantage the combination of the transfer sheet, the strip and "two-part"/bisected release layers has in the ease of application of the invention to furniture and the like. Customers have also expressed adoration regarding the gap between the strips has in aiding in the removal of the strips from the transfer sheet. Additionally customers have disclosed their satisfaction regarding the adhesive's tack strength to easily cause an unpleasant sticking sensation. In my opinion, and based on comments that I received from customers, this claimed feature of the invention and others are the reason for its success.

11. In regards to the "corrugated embodiment" I have received acclaim from consumers regarding some of its features which include a strip (control sheet) with one surface being releasable adhered to a corrugated substrate and the other surface being adhered to a release layer. In my opinion, and based on comments that I received from customers, this claimed feature of the invention and others are the reason for its success. In my opinion, and based on comments that I received from customers, this claimed feature of the invention and others are the reason for its success.

12. Before my company launched a product embodying the elements of the claimed invention, it was relatively inexperienced in the market, and, because of the features of the invention has achieved a large market share.

13. The products sold by Fe-Lines, which incorporate the claimed invention have been the subject of industry recognition and awards. At various trade shows, including the Editors Choice Award from Cat Fancy Magazine in 1997 and 2003 (Exhibit H), the "Excellent" review from CATsumer Report in 1999, a formal "endorsement" from CATNIP! Newsletter in 1999 (Exhibit I), as well as a two-year "Seal of Approval" from the ASPCA in 2000 (Exhibit J). These awards specifically refer to the "Sticky Paws for Plants" and the "Sticky Paws for Furniture". The "Sticky Paws for Plants" is the "corrugated embodiment" of the invention covered by claim 42. The "Sticky Paws for Furniture" is the "flat embodiment" of the invention covered by claim 1.

14. I believe that the relatively quick rise in market share and sales is because of the elements of the claimed invention. For example, the company only spends a small fraction of its income on advertising.

15. Moreover, as the Patent Office can see, by looking at the product, we do not spend an inordinate amount of money on product presentation or packaging. I believe that the reason that customers buy the product is because of the advantages that the invention provides.

16. The Patent Office can see that both Exhibit A and Exhibit B (which are my company's products) are covered by and include the elements of claims 1 and 42, respectively.

17. There is also evidence of exact copying of the invention.

18. Attached to this Declaration is a copy of a photograph of a first competitor's product, which virtually identically copies one of the embodiments of the invention. *See*, Exhibit D. The dimensions of the product are similar. The substrate, the control layer and the bisected release layer are identical. The adhesive in the first competitor's product has been tested and determined to be nontoxic as claimed in my application for my invention. A copy of the test results showing the similarity in adhesive is shown in Exhibit K. This competitor is a larger better-established company than mine and has a large distribution network in place. Although I am unaware of the exact date that this competitor's product went into public use, I became aware of it well after I invented and began selling the devices as shown in Exhibits A & B and claimed in Patent Application Number 10/734,461.

19. There is additional evidence of copying because the label and instructions supplied with the competitive product are almost identical. For example, a copy of the instructions supplied to the customer by my company with the inner package of the product is attached as Exhibit C. Exhibit E is a photocopy of the first competitor's instructions.

20. Attached to this Declaration is an internet web page printout showing a second competitor's product, which also virtually copies the flat embodiment of my invention. In this instance the dimensions of the product are similar and the substrate, control sheet and bisected release layers are identical to my invention. *See*, Exhibit F.

21. The second competitor closely copied the instructions of the Fe-Lines product. A copy of the instructions from this competitor's product is attached as Exhibit G. The second competitor also used packaging very similar to that used for the Fe-Lines product. *See*, Exhibits F, G.

22. The products incorporating the claimed invention have been recommended in award-

winning books, including:


- Complete Kitten Care, by Amy D. Shejail, a nationally known authority on pet care and behavior, a spokesperson for Purina®, and an award-winning author of more than a dozen nonfiction pet books.
- Kittens for Dummies, by Dusty Rainbolt, a nationally known authority on cat care and behavior, and an award-winning author and a regular contributor to the Whole Cat Journal and City + Country Pets.
- The Cat Fanciers' Association Complete Cat Book, by Mordecai Siegel, a nationally known, highly-regarded and widely published authority on pet care.
- Think Like A Cat, by Pam Johnson-Bennett, a Certified Animal Behavior Consultant and clinical member of the International Association of Animal Behavior Consultants. She is the author of a number of award-winning and critically acclaimed books and one of the country's most well-known and popular experts on cat behavior.

23. A copy of the entire packaging and display of the infringing device attached as Exhibit D is attached as Exhibit L.

I declare under penalty of perjury that the foregoing is true and correct.

Date:

9/6/06


Bonnie Pemberton

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: PEMBERTON ET AL.

Serial No.: 10/734,461

Filed: 12/12/2003

For: "Method and Device for Preventing Pets from Clawing Home
Furnishings"

Examiner: Mark A. Osele

Art Unit: 1734

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF CHRIS RUBEN

1. My name is Chris Ruben. I am over 21 years of age, of sound mind and willing and able to make the following Declaration.

2. I am the president and chief executive officer of CMR Creative Marketing Resources, Inc., a Texas corporation in good standing. The company is in the business of marketing pet products to distributors and consumers throughout the United States and abroad. Over a period of 8 years, my company has been involved in marketing products for Fe-Lines, Inc., including the invention of the application noted above.

3. While I have sold pet products for many years, I am not an expert in the field of plastics, adhesives or adhesive tapes. Moreover, I am not an expert in the field of packaging. I consider myself one of ordinary skill in the art when it comes to the subject matter of the invention disclosed in the application.

4. The product has been immensely successful in the marketplace. It has grown from a market share of approximately zero in 1996 to a zenith to control a market share of approximately 80% of this product in the United States.

5. I have attended domestic and international trade shows at which the product of Fe-Lines incorporating the elements of the invention has been displayed. I have witnessed the presentation of the competing products in these same trade shows indicating that the product of the invention incorporating the elements of the invention and the competitor's products move in

the same channels of trade. Moreover, at least one of Fe-Lines' customers of the product incorporating the elements of the invention has purchased one of the competing products providing further evidence of the same customers and channels of trade.

6. Before competitors began copying the product, there was no product that incorporated the advantages of the claimed invention on the marketplace. Specifically, those claimed advantages include among others a bisected release layer, and other features such as a transfer sheet, a control sheet adjacent to the transfer sheet, a bisected release layer adjacent to the control sheet, and wherein the first release sheet and the second release sheet abut but do not overlap. The abutment provides the ability to peel one layer from the transfer sheet and apply it while leaving a non-sticky surface to help in handling. Moreover, the product is useful around "corners" of furniture where an unbisected release layer would not function at all.


7. Advantages contained within the corrugated embodiment of the product that are important to the success of the product includes a strip (control sheet) with one surface being releasable adhered to a corrugated substrate and the other surface being adhered to a release layer. Customers have expressed to me they have purchased and continue to use and be pleased with the invention disclosed in the corrugated embodiment because of the combination of the rigid corrugated substrate with a releasable adhere strip and the release layer.

8. In my experience, customers are extremely satisfied and pleased with the claimed features and function of the invention. For example, at trade shows, I have been directly approached by customers who have directly stated the combination of the transfer sheet, the strip and "two-part"/bisected release layers aids in the application of the invention to furniture and the like. Customers have also expressed satisfaction regarding the gap between the strips on the transfer sheet. Additionally customers have told me that they are pleased in the adhesive's ability to deter their pets' behavior because it causes an unpleasant sticking sensation when touched.

9. Additionally, large-scale buyers of the product have commented that products incorporating the elements of the invention sell well because of its claimed features, including, but not limited to the bisected release layer, the combination of the transfer sheet, the strip and "two-part"/bisected release layer and the adhesives' ability to cause an unpleasant sticking sensation.

I declare under penalty of perjury that the foregoing is true and correct.

Date: 09/06/06



Chris Ruben

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: PEMBERTON ET AL.

Serial No.: 10/734,461

Filed: 12/12/2003

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SUPPLEMENTAL DECLARATION OF BONNIE PEMBERTON

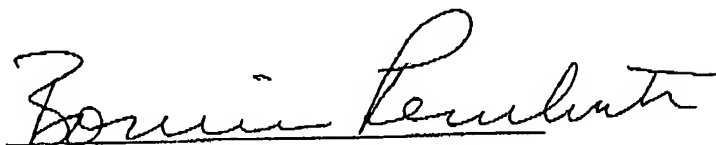
1. My name is Bonnie Pemberton and I make this declaration in support of the above noted United States Patent Application. I am over 21 years of age, of sound mind and willing and able to make the following Declaration and all facts recited are with my personal knowledge.
2. I have reviewed the Office Action of September 25, 2006. The examiner takes the position that my invention was a replacement of the prior art double sided tape offered by the 3M Company, and further implies my invention was merely a repackaging and remarketing of the 3M product. This is not correct. The 3M tape did not have the bisected release layer of my invention. Furthermore, the 3M tape was not completely bisected along an axis parallel to its length. The 3M tape was not provided with a base release sheet and a top release sheet. Also, the 3M tape was rolled and not provided flat or in strips as required by my invention. Therefore my invention was not a repackaging of the prior art but rather is substantially different from and a substantial improvement over the prior art 3M tape.
3. The examiner questions whether the market of the stated market share growth includes all double-sided adhesive tapes, including the rolled adhesive tape of 3M or only the double sided adhesive tapes marketed at cat owners for scratch prevention. The examiner implies that an important factor determining market success attributable to product improvements would be whether the double sided adhesive tape roll of 3M tape was sold in pet stores prior to 1996 and questions whether it was ever placed in a way to attract cat owners for its specific use as a cat deterrent. Presumably the examiner means that if the 3M double sided tape was not ever

marketed in a way to attract cat owners for its specific use as a cat deterrent, then the increase in sales of my invention is a result of marketing, packaging, and perhaps advertising instead of because of the features of my invention. But, there is no evidence of this position, it is merely speculation. There is evidence that double sided tape was known to cat owners--in fact the Examiner provided two separate articles in 1998 showing the uses of double sided tape. See, "Claws and All: Living With Your Cat, Your Furniture and Your Piece of Mind", HSUS News, p. 1-4 WWW.HSUS.ORG/CLAWS.HTML, 1996 and "Basic Training for Your Cat", Perfect Paws, P. 1-2 WWW.PERFECTPAWS.COM/TRAM.HTML, 1995 (cited by the Examiner Sept. 28, 1998). It is manifestly unfair to discount the drastic increase in sales of my invention because of speculation that a single 3M product was or was not marketed in a particular way. In the market of double sided adhesive tapes for pet scratch prevention, Fe-Lines, Inc.'s share of the market has grown from 0% to almost 80% in less than 10 years despite the company spending only a small fraction of its income on advertising. Fe-Lines, Inc.'s market share has grown even with the subsequent emergence of products similar in presentation and functionality to the claimed invention. I believe the relatively quick rise in market share is because of the elements of the claimed invention as opposed to the packaging, the elements of the claimed invention being a bisected release layer adjacent to a strip having adhesive surfaces on opposite sides adjacent to a planar transfer sheet. Also, there is evidence from the Declaration of Chris Ruben in the record that many customers have bought my invention because of these features. I have never had a customer tell me in all the years I have sold the product that they bought it because of the package or the way that we advertised it.

4. The examiner suggests that the ASPCA Seal of Approval was given in exchange for payment to the ASPCA. But this is not correct. The ASPCA scrutinizes pet related products to ensure claimed functionality and the safety of pets. Products submitted for the Seal of Approval are reviewed by a panel of ASPCA experts comprised of veterinarians, veterinary toxicologists, animal behaviorists, and animal science specialists nationally renowned in their scientific fields. The ASPCA award is only given after a product passes all tests for quality and safety. Therefore the "Seal of Approval" awarded by the ASPCA in 2000 is not a "quid pro quo" for payment. It is a bona fide and deserved award for my product incorporating my invention.

I declare under penalty of perjury that the foregoing is true and correct.

Date: 3/12/07


Bonnie Pemberton

May 8, 1956

L. E. HOOGSTOEL ET AL
PACKAGING DEVICE

2,744,624

Filed Nov. 12, 1954

2 Sheets-Sheet 1

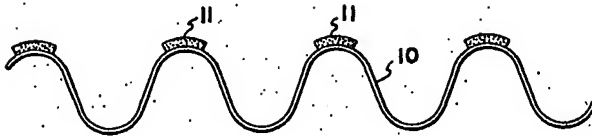


FIG. 2.

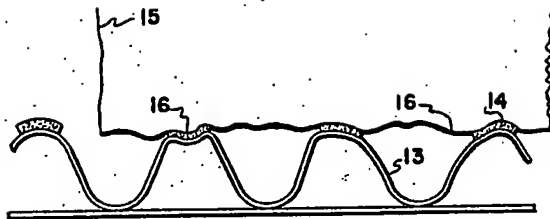
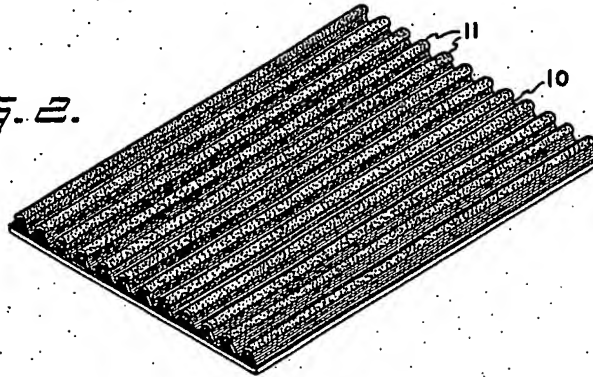
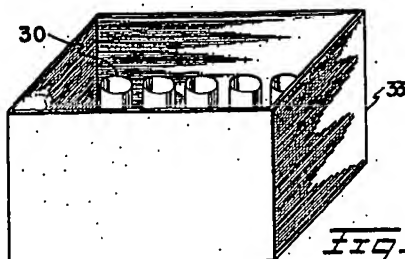
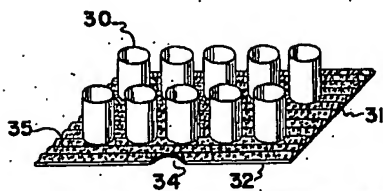
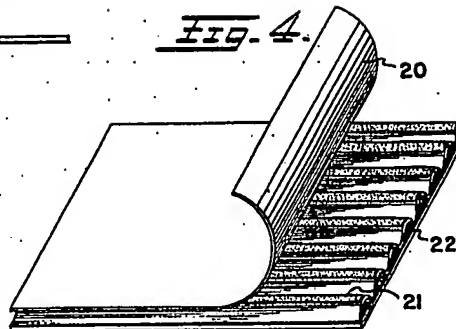


FIG. 4.



INVENTORS

LEON E. HOOGSTOEL

COLIN A. ROSS

FIG. 5. BY

Hugh E. Smith

ATTORNEY

May 8, 1956

L. E. HOOGSTOEL ET AL

2,744,624

PACKAGING DEVICE

Filed Nov. 12, 1954

2 Sheets-Sheet 2

Fig. 6.

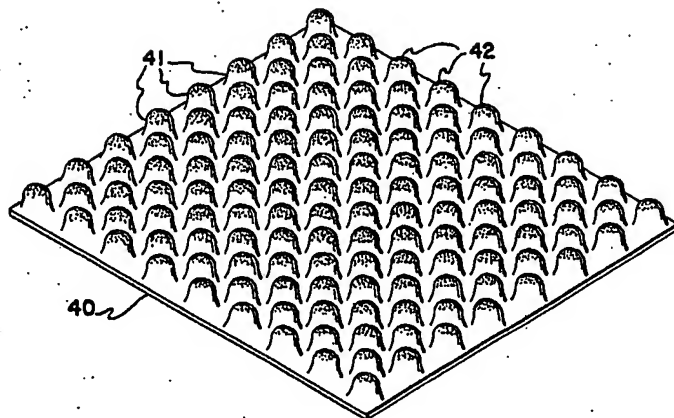
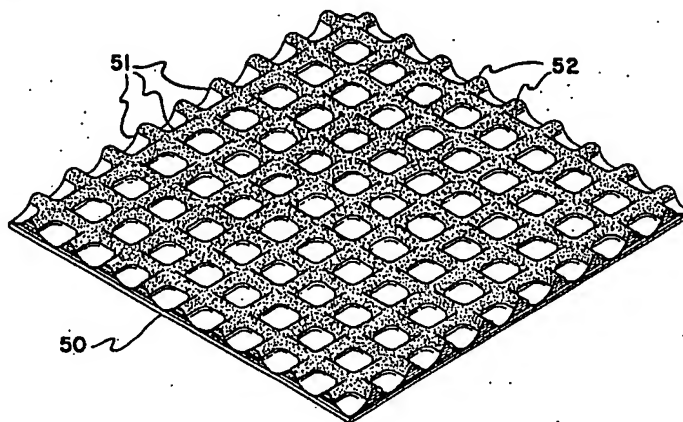


Fig. 7.



INVENTORS

LEON E. HOOGSTOEL

COLIN A. ROSS

BY

Hugh E. Smith

ATTORNEY

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2,744,624

PACKAGING DEVICE

Leon E. Hoogstoel and Collin A. Ross, Troy, N. Y., assignors, by mesne assignments, to Norton Company, Worcester, Mass., a corporation of Massachusetts

Application November 12, 1954, Serial No. 468,207

6 Claims. (Cl. 206—65)

The present invention relates in general to a packaging device adapted for use in the packaging of multiple articles, and more particularly to a device adapted to hold such articles against movement during handling and to cushion the articles against shock incident to such handling.

It has heretofore been recognized as desirable in the art to provide cushioning means for fragile or frangible articles packed in units of one or more to a package. Excelsior, shredded rubber, paper and the like have been used for this purpose with some success but many attendant disadvantages. Materials of this sort are bulky to store and tend to create a nuisance through scattering during packaging or unpackaging of the article or articles.

Likewise, the desirability of preventing lateral or vertical shifting of articles within a package has been recognized, and the above materials have also been used for this purpose. Use has also been made, in this connection, of relatively-rigid, preformed dividers or spacers, particularly where the packaging involves a plurality of articles of the same or similar dimensions. The use of such spacers with articles of varying sizes requires the keeping of a large stock of different size spacers with attendant cost and storage problems.

One solution to the problem of shifting would be the use of adhesive to secure the articles to a support, and several devices of this type, utilizing gummed or pressure-sensitive adhesives, have been suggested. None of these, whether completely coated or coated with a patterned adhesive e. g. adhesive laid down in spaced strips, have met with wide acceptance by the trade due to the tendency of substantial amounts of the adhesive to come off on the articles held thereby, to the tendency of transit-incurred shocks to be transmitted through the adhesively-coated supports to the articles held thereon with resulting damage to such articles, and to the inability of such devices to handle articles of uneven surface contour.

Accordingly, it is an object of the present invention to provide a packaging means capable of overcoming the above-mentioned disadvantages of the prior art.

It is a further object of the invention to provide an economical, easily-stored and efficient packaging device capable of holding and cushioning articles of the same or varying sizes during shipment within a container.

Another object of the invention is to provide a packaging means embodying a pressure-sensitive adhesive as one of the major components thereof.

Still a further object of the invention is to provide a pressure-sensitive adhesive-coated packaging means which is shock-absorbing, and which will firmly hold articles of varying sizes and uneven surface contours without the transfer of objectionable amounts of adhesive to such articles.

Additional objects, if not specifically set forth herein,

2

will be readily apparent to one skilled in the art from the following detailed description of the invention:

In the drawings:

Figure 1 is a schematic illustration of the basic elements of the packaging means of the present invention.

Figure 2 is a perspective view of the preferred type of packaging means of the invention.

Figure 3 illustrates schematically the manner in which articles of irregular surface contour are held in place by the preferred device of the present invention.

Figure 4 is a perspective view of one form of the present invention immediately prior to its being utilized in the formation of a package.

Figure 5 is a perspective, partially-exploded view of the packaging device of this invention as a component of a partially-completed package.

Figure 6 illustrates one modification of the invention.

Figure 7 represents another modification of the form of the packaging device of the present invention.

Generally, the present invention contemplates the provision of a packaging means having a plurality of spaced, raised, pressure sensitive adhesive-coated, resilient, article-contacting members whereby articles held thereon are cushioned against shock and are held by many contacts of limited area to decrease or substantially eliminate transfer of adhesive to such articles. Preferably such areas are relatively narrow, parallel and uni-directional continuous, although discontinuous and non-parallel areas may also be used.

More specifically, referring now to Figure 1 of the drawings, the present invention contemplates in its preferred form the provision of a corrugated-type material of a resilient nature 10, such as a good grade of kraft paper or the like formed into corrugations in any manner known to the art, with a relatively thin coating (e. g. 0.002 to 0.004") of a pressure-sensitive type of adhesive 11, said adhesive being preferably applied solely to the crests of the corrugations, on one side only of the material. The corrugated material may be secured, on the surface opposite the pressure sensitive adhesive-coated surface, to any suitable backing, as for example kraft paper, to form single face corrugated board as illustrated in Figure 2, or to a more rigid or more flexible backing as may be desired. In some instances it may be desirable to use the corrugated material without any backing whatsoever, but in all instances, one face of the corrugated material must be open to receive the pressure sensitive adhesive coating.

The corrugated material illustrated in Figure 2 is standard single face having a liner or backing of kraft, bogus or sulphite, approximately 0.009" thick and a kraft, chip, chestnut or straw 0.009" corrugating medium. The corrugations may be varied if desired, but the usual A-flute (36 flutes/lineal foot— $\frac{3}{16}$ " high) or B-flute (50 flutes/lineal foot— $\frac{1}{10}$ " to $\frac{1}{8}$ " high) have been found to give good results.

By forming a packaging device in the above-described manner, three important results are achieved. Firstly, the placing of articles to be packaged on the pressure-sensitive adhesive-coated surface causes the corrugations to be compressed to some extent but, due to the fact that there are a plurality of such corrugations, a certain amount of compressibility and resiliency remains. This provides a cushioning effect which will take up shocks without transmitting them in their entirety to the packaged articles. Secondly, due to the presence of adhesive on the tips of the corrugations, the pressure of irregular-surfaced articles on such corrugations causes a deformation

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of the corrugation in what amounts to a mirror image of the surface irregularities of the article itself. By virtue of this property, all edges of the article are securely and firmly held to the adhesive-coated surface. Reference to Figure 3 of the drawings illustrates this second feature of the invention. The corrugations 13, carrying a coating of pressure-sensitive adhesive at the crests 14 thereof, are depressed when an article such as a cup 15 is placed thereon. Surface irregularities 16 in the adhesive-contacting surface of the cup are mirrored in the adhesive-coated corrugations and result in a firm uniform bond between the cup and the corrugated member. Thirdly, by virtue of having the adhesive on spaced, raised projections of the backing sheet, only a relatively small amount of adhesive actually contacts the surface of the article packaged, and transference of the adhesive to the article is substantially eliminated.

In manufacturing the packaging device of the present invention, the pressure sensitive adhesive may be applied to the tips or crests of the corrugations in a number of ways, as by brushing, reverse roll-coating, metered calendar rolls or the like. Preferably, a continuous length of the corrugated material, with or without a backing member secured to one face thereof, is run through a reverse roll coater of the type commonly used to apply gummed adhesive to labels or the like; the pressure sensitive adhesive applied thereby; a protective liner placed over the adhesive-coated surface; and the material rolled into large rolls for future cutting into the desired package-size increments.

As a pressure sensitive adhesive for the corrugations, it is desirable that the well-known rubber base type be used. Many variations in such compositions are known to the art and may be employed to suit the desired end result as to tack, aging properties, stain resistance or the like. Typical adhesive compositions which will give good results are illustrated in U. S. Patents Nos. 2,156,380; 2,415,901; 2,416,925; and others. Alternatively, it has been found that the following pressure sensitive adhesive compositions will give good results:

COMPOSITION A

	Parts by weight
Smoked sheet	100
Zinc oxide	50
Dehydroabietic acid	85
Alkylated polyhydroxy phenol (antioxidant)	2
Lanolin	5
Toluol, for 40% solids.	

COMPOSITION B

Smoked sheet	100
Zinc oxide	50
Terpene resin	85
Alkylated polyhydroxy phenol (antioxidant)	2
Lanolin	5
Heptane, for 35% solids.	

COMPOSITION C

Butadiene-styrene copolymer	100
Zinc oxide	0-50
Glycerol ester of hydrogenated rosin	70-100
Alkylated polyhydroxy phenol (antioxidant)	2
Paraffin base mineral oil	10-15
Toluol, for 35-40% solids.	

COMPOSITION D

Reclaim rubber (60% RHC)	100
Zinc oxide	25
Dehydroabietic acid	40
Alkylated polyhydroxy phenol (antioxidant)	1
Heptane, for 35% solids.	

While the pressure sensitive adhesive is generally applied directly to the tips or crests of the corrugations, it

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is within the scope of the present invention to first apply a bonding or primer coat to the corrugations to increase the bond between the corrugations and the adhesive. Many types of primers are known to the art and a selection of the one best fitted for the particular adhesive mass used may readily be done by one skilled in the art. Typical examples or primers which are satisfactory for this purpose are illustrated below:

COMPOSITION A-1

	Parts by weight
Smoked sheet	100
Dixie clay	100
Zinc resinate	50
Alkylated polyhydroxy phenol (antioxidant)	1
Toluol, for 40% solids.	

COMPOSITION B-1

Acrylonitrile-butadiene copolymer	100
Aluminum hydrate	100
Zinc resinate	100
Methyl ethyl ketone	300
Toluene	300

COMPOSITION C-1

Butadiene-styrene-copolymer	100
Aluminum hydrate	100
Coumarone-indene resin	60
Alkylated polyhydroxy phenol (antioxidant)	1
Toluol for 40% solids.	

As above-stated, the packaging device of the present invention is preferably prepared with a temporary liner covering the adhesive-coated surface. Such construction is shown in Figure 4 of the drawings with the liner 20 partially removed from the adhesive-coated side 21 of the corrugated member 22. This liner is preferably made of a tough, cheap, easily-disposable material such as paper, embossed polyethylene or the like, which may be treated to have only a slight affinity for the particular pressure sensitive mass on the corrugations. This is accomplished by coating the face of the liner in contact with the adhesive with any suitable "release" agent as, for example those illustrated in U. S. Patents Nos. 2,395,668; 2,496,349; and 2,548,980. The embossed polyethylene is generally satisfactory without the application of any release coating to the face of the liner. The liner serves to protect the pressure sensitive adhesive from dirt, dust or the like, and also to prevent damage to the corrugations prior to actual use of the device in the formation of a package.

In use, the device of the present invention finds its greatest application in the packaging of fragile articles, such as china, glassware or the like, wherein a number of such articles are placed in the same container. For example, referring to Figure 5, glass tumblers 30 are placed on the adhesive-covered corrugations 31 of a device 32, made in accordance with the present invention, and placed in a conventional shipping carton 33. Hand-holds 34 are usually cut in the packaging device as illustrated to provide for ease of removal from the container. As illustrated in Figure 5, a plurality of layers of the combined packaging device of this invention and its associated load of articles supported thereon may be contained within the same package. It is frequently desirable to provide two of the packaging devices of the present invention per layer of articles packaged, i. e. one member at the base and one at the top of the articles with the adhesive surface of each of such members against the articles. Also illustrated in Figure 5 is a further modification of the invention wherein flock 35 or other decorative material of a similar nature, i. e. short fibers or granules, has been applied to the adhesive-coated corrugations not covered by the articles mounted on the packaging device. By this added feature, the entire layer, i. e.

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packaging device plus associated articles, may be removed from the package and placed directly on a retailer's shelf to form an attractive display item. The flock, in addition to being decorative, serves to cover the tacky adhesive and prevent adhesion of dirt, dust or the like to the display item. Articles sold may easily be detached from the surface of the packaging device, and either replaced with a similar article or the adhesive thus exposed covered by additional flock or other decorative material.

Due to the limited adhesive area resulting from the coating being applied to the crests of the corrugations, the tendency for adhesive to come off on the articles removed from the device is materially reduced. Variations in the particular adhesive mass, and the use of a primer will also aid in this respect.

A number of severe packaging tests have been conducted on fragile articles packaged in accordance with the present invention and illustrate the advantages enumerated hereinbefore. The following examples are illustrative of some of the tests which have been conducted:

Example I

Packages were made up of china cups and glass tumblers in accordance with the present invention, utilizing the preferred form of packaging device illustrated in Figure 2 of the drawings. The packaging devices of the present invention were cut to fit the corrugated cartons used and packed as indicated below. The corrugated material was standard single face having a thin (0.002 to 0.004") coating of a rubber-resin type pressure sensitive adhesive on the crests of the corrugations only. In each case a 200# test corrugated carton was the container, and the "drops" referred to in the following table mean drops taking place in a conventional seven foot diameter tumbling drum:

Package	Drops	Results
A. Single layer of 12 five ounce glass tumblers—Packaging device of Fig. 2 applied to top and bottom of layer.	388	No shifting and no breakage.
B. Single layer of 12 eleven ounce cups— $\frac{3}{4}$ " space between each—Packaging device of Fig. 2 applied to top and bottom of layer.	240	Do.
C. Multiple layer—4 tiers of 6 cups and 6 tumblers alternately—each tier mounted top and bottom to a packaging device similar to that of Fig. 2.	240	Do.

Example II

To illustrate the capability of the devices of the present invention to prevent shifting and breakage of heavy articles, a plurality (48) of 4 ounce (liq.) screw top glass jars were filled with fine flint abrasive and packaged as in C of Example I in two tiers of 24 jars each. Each jar weighed approximately 6 ounces. A drum test was run as in Example I, and after 198 drops the carton was opened to show no breakage or signs of shifting of the jars.

While as stated herein, it is preferred to coat only the tips or crests of the corrugations with pressure sensitive adhesive, it is possible to have the adhesive also in the valleys of the corrugations. This is generally uneconomical since the articles to be packaged will not be in contact with the adhesive except at the crests of the corrugations, but may be desirable if flock is to be applied, in order to obtain a uniform ornamental coating over the exposed surfaces.

While the foregoing has been directed to the use of corrugated board as a base for the adhesive coating, it is also within the scope of the invention to utilize spaced raised areas of a shape other than the narrow, uni-directional-continuous corrugations described above. Referring now to Figure 6 of the drawings, 40 represents a sheet material of kraft paper, strawboard, plastic or

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the like which has been deformed to provide a plurality of spaced, raised projections 41, giving the surface of the sheet a pebbled appearance. The pressure sensitive adhesive coating 42 is applied to the crests of these projections to complete the modified form of the packing device of the present invention.

Also, another modification of the invention may comprise the provision of other than parallel corrugations. In Figure 7, the backing sheet 50 has been formed with grid or waffle-type projections 51 on the surface thereof, the crests of which are likewise coated with a pressure sensitive adhesive layer 52.

In forming the backing members illustrated in the preferred form of the invention and also in the various modifications hereinbefore referred to, it will be understood that where the terminology "raised members," "projections," "crests" or the like is used, such terminology is intended to cover the situation wherein the backing sheet is subjected to a die stamping or other treatment designed to depress all but selected spaced areas as well as the more normal procedure of raising the spaced areas above the plane of the rest of the backing sheet.

Obviously, many other modifications and variations of the invention as hereinbefore set forth may be made without departing from the spirit and scope thereof, and therefore only such limitations should be imposed as are indicated in the appended claims.

We claim:

1. A packaging device comprising: a backing member having a plurality of spaced, raised, compressible and resilient areas; and a pressure-sensitive adhesive covering the upper portion only of said raised areas.
2. A packaging device comprising: a backing member having at least one face containing a plurality of spaced, raised, compressible and resilient projections; a coating of pressure sensitive adhesive applied to the tops only of the projections on one face only of such member; and a protective removable liner applied to said one face over said pressure sensitive adhesive coating.
3. A packaging means, wound upon itself in roll form, comprising: a long, continuous, flexible, corrugated backing, the corrugations of which are compressible; a coating of pressure-sensitive adhesive applied to the crests only of the corrugations on one face only of said backing; and a protective removable liner having only slight affinity for said pressure-sensitive adhesive applied over said adhesive.
4. A package element comprising in combination: a backing member having a plurality of spaced, raised, compressible and resilient, pressure-sensitive adhesive-coated areas, said member between said spaced, raised areas being free of pressure-sensitive adhesive; and a plurality of articles affixed in spaced relationship on said member, with those surfaces of such articles which are in contact with said member contacting only and at least partially compressing the spaced, raised, resilient pressure-sensitive adhesive-coated areas thereof, the surfaces of such articles immediately adjacent such contacting surfaces being adhesive-free.
5. A package comprising in combination: a container; and a plurality of packaging elements disposed within said container in superposed relationship; said packaging elements each comprising a member having at least one compressible corrugated face having a pressure-sensitive adhesive coating on the raised portion of said corrugations only of one face only thereof, and a plurality of articles affixed in spaced relationship to one another on said member by contact only with said adhesive-coated corrugations, said articles at least partially compressing said corrugations and being free of adhesive immediately adjacent the points of contact between said articles and said corrugations.
6. A package element comprising in combination: a backing member having a plurality of spaced, raised, resilient, pressure-sensitive adhesive-coated areas; a plu-

2,744,624

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rality of articles affixed in spaced relationship on said member with those surfaces of such articles which are in contact with said member contacting only the spaced, raised, resilient, pressure-sensitive adhesive-coated areas thereof; and a coating of decorative material applied over and adhering to the adhesive-coated portions of the backing member remaining exposed after said articles are affixed to said member.

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1959

590156

FIG-1

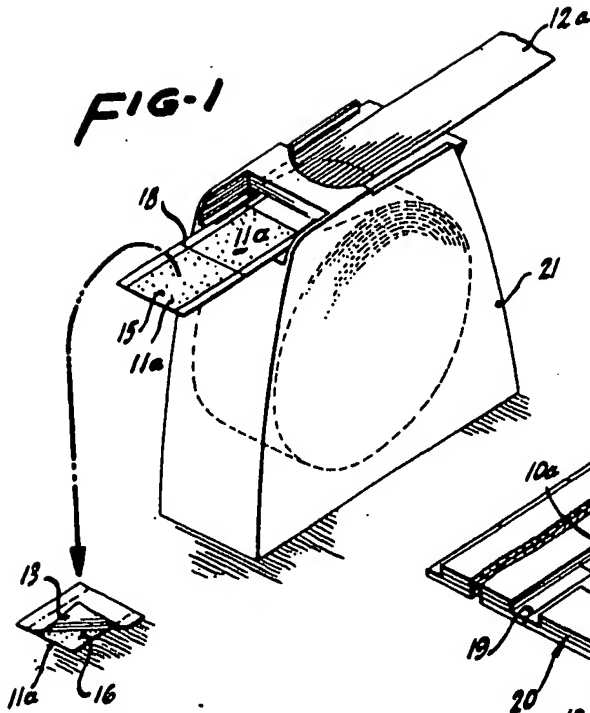


FIG-2

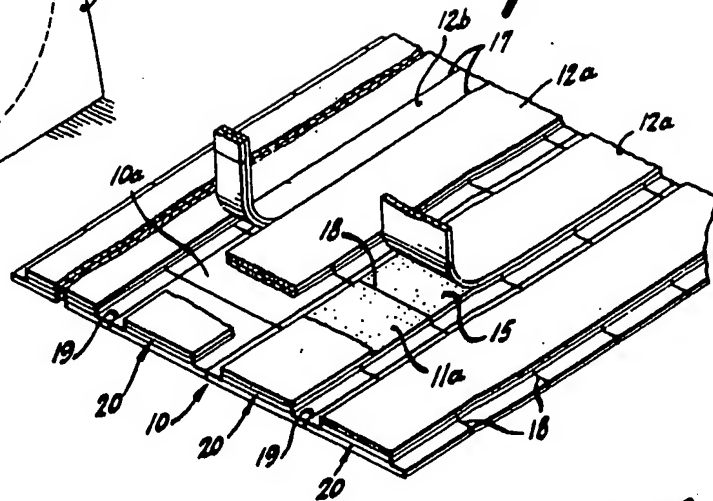


FIG-3

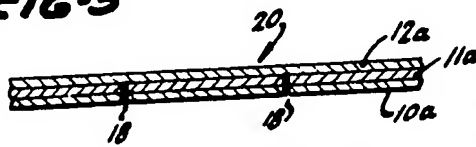


FIG-4

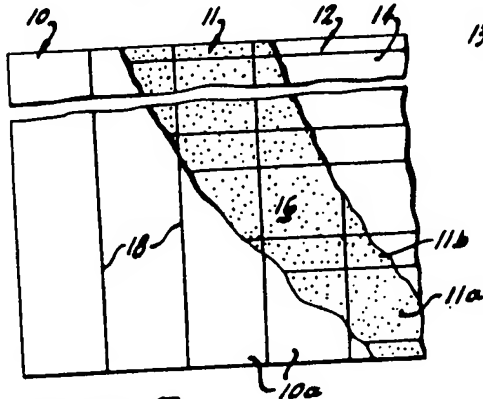
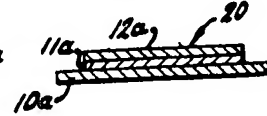


FIG-5

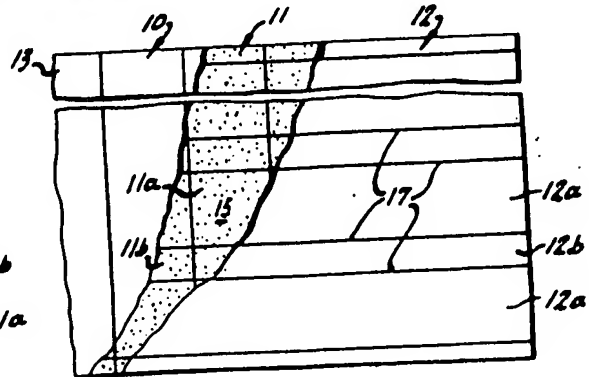


FIG-6

16/62

REPUBBLICA ITALIANA
MINISTERO
DELL'INDUSTRIA E DEL COMMERCIO

UFFICIO CENTRALE DEI BREVETTI
per Invenzioni Modelli e Marchi

BREVETTO PER INVENZIONE
INDUSTRIALE 590156

— classe

C 09 j

ITALY
DIV. *67*

Avery Adhesive Label Corp. a Monrovia, California (Stati Uniti d'America)

Data di deposito: 9 maggio 1958

Data di concessione: 25 marzo 1959

Priorità: Stati Uniti d'America, domanda di brevetto n. 692408, del 25 ottobre 1957

**Perfezionamento nella struttura delle linguette adesive predisposte a nastro,
e relativo metodo di fabbricazione**

La presente invenzione si riferisce ad una struttura di linguetta adesiva ed in modo più particolare ad una struttura di linguetta adesiva in cui la linguetta adesiva è coperta da materiale di rinforzo protettivo su entrambi i suoi lati, e che può essere prontamente erogata ed impiegata.

Più particolarmente, la presente invenzione si riferisce ad una linguetta dotata di adesivo sensibile alla pressione su entrambi i suoi lati e che può essere impiegata per tenere oggetti in disposizione di montaggio, come ad esempio per il montaggio di fotografie entro album, per il montaggio di cartelli su pareti o per qualsiasi altro scopo analogo. Inoltre, la presente invenzione si riferisce ad un modo in cui si possono produrre tali linguette, in modo tale che esse possano essere facilmente conservate e protette prima dell'impiego che esse possano essere facilmente erogate quando necessario, e che possano essere facilmente applicate alle superfici cui esse sono destinate.

Costituisce uno scopo principale della presente invenzione quello di provvedere una striscia di linguette disposte in prosecuzione, estremo contro estremo, ciascuna delle quali ha un rivestimento di

adesivo sensibile alla pressione su ciascun suo lato, una striscia continua di materiale di rinforzo coprendo un lato delle linguette, mentre una pluralità di strisce di materiale di rinforzo copre gli altri lati delle linguette anzidette, cosicchè ciascuna delle strisce ultime citate copre completamente una linguetta singola e ne sporge verso l'esterno.

Costituisce un ulteriore scopo quello di provvedere un metodo originale per costituire un elemento laminare composito quale è stato indicato nello scopo precedentemente enunciato.

Altri scopi ed altri vantaggi della presente invenzione risulteranno chiari dallo svolgimento della presente descrizione particolareggiata.

Nei disegni, che fanno parte della presente domanda, e nei quali le stesse parti sono contraddistinte, in tutte le figure, dagli stessi numeri di rifornimento.

La figura 1 illustra l'impiego di una striscia composita lamellare quale costituita secondo la presente invenzione, mediante un dispositivo erogatore;

La figura 2 è una vista prospettica degli elementi a foglio lamellari, con alcune parti asportate e con uno spessore dei fogli esagerato, che illustra il modo in cui

viene prodotto l'oggetto lamellare;

Le figure 3 e 4 sono viste in elevazione, rispettivamente laterale e di estremità della striscia completa, lo spessore dei vari strati che fanno parte dell'oggetto essendo stato esagerato;

Le figure 5 e 6 sono viste dall'alto e dal basso di una parte a disposizione di sviluppo longitudinale dei fogli lamellari, con alcune parti asportate destinate ad illustrare il modo con cui i tagli predisposti sono effettuati attraverso i fogli.

Nella fabbricazione dell'oggetto secondo la presente invenzione, un foglio di materiale di rinforzo 10, un foglio di materiale 11 destinato a costituire le linguette, ed un foglio di materiale di rinforzo 12 sono alimentati, ciascuno in forma di nastro continuo, ad una macchina di applicazione di rivestimento che riveste i fogli di rinforzo 10 e 12 con rivestimenti, rispettivamente 13 e 14 di distacco, e che riveste il materiale costitutivo delle linguette con rivestimenti adesivi sensibili alla pressione 15 e 16 su ciascun suo lato. I tre fogli continui 10, 11 e 12 vengono poi portati sotto un rullo di pressione in disposizione sovrapposta in modo da formare un foglio composito continuo a tre strati.

Il termine « materiale di rinforzo » quale è impiegato nella tecnica, comprende le sostanze come la carta detta « glassine » od altro simile materiale, che sia flessibile e che abbia una superficie relativamente dura. Il termine « rivestimento di distacco », quale viene impiegato nella tecnica, si riferisce ai rivestimenti sensibili a pressione, adesivi, atti ad aderire ad un materiale di rinforzo, ma che hanno una bassa affinità per i rivestimenti adesivi sensibili a pressione 15 e 16 del foglio di materiale 11 per le linguette. Il materiale delle linguette può essere costituito da carta relativamente morbida, oppure dal materiale di rinforzo che si è descritto precedentemente, a seconda di come si desideri.

Il foglio composito, formato in tal modo, viene poi portato sotto un rullo di taglio a matrici, in modo tale che alcune delle matrici che lavorano contro la superficie relativamente dura del foglio di rinforzo 10 effettuano un intaglio attraverso il foglio di rinforzo 12 ed il foglio del materiale delle linguette 11 lungo la pluralità di linee di taglio parallele 17 disposte longitudinalmente rispetto al foglio composito, senza effettuare una incisione sul foglio di rinforzo 10.

Il foglio composito viene poi portato attraverso un altro dispositivo a rulli di taglio a matrice che effettua i tagli attraverso il foglio di rinforzo 10 ed il materiale per le linguette 11, lungo le linee di taglio parallele distanziate 18, disposte trasversalmente rispetto al foglio composito, senza effettuare incisioni sul foglio di rinforzo 12.

In conseguenza di queste due operazioni di taglio, il foglio di rinforzo 10 viene ad essere costituito da una pluralità di strisce 10a aventi andamento trasversale, mentre il foglio di rinforzo 12 risulta costituito da una pluralità di strisce a disposizione longitudinale, 12a e 12b, alternate larghe e strette, come si può rilevare nelle figure 5 e 6. Il materiale delle linguette 11 viene diviso in una pluralità di rettangoli 11a aventi una lunghezza eguale alla larghezza delle strisce di rinforzo 10a, ed aventi una larghezza eguale alla larghezza delle strisce di rinforzo 12a. Il materiale delle linguette viene inoltre anche tagliato in rettangoli a simile lunghezza 11b, che hanno una larghezza eguale alla larghezza delle strisce di rinforzo 12b.

Le strisce strette 11b e 12b del materiale delle linguette 11, e del foglio di rinforzo 12 vengono poi strappate dal foglio di rinforzo 10 e buttate via, lasciando le altre strisce di rinforzo longitudinali continue 12a distanziate l'una dall'altra e sovrapposte sulla serie di rettangoli di materiale delle linguette 11a, entrambi tali parti essendo sovrapposte sulle strisce di rinforzo 10a aventi disposizione trasversale, come è illustrato nella figura 2. Il foglio di rinforzo 10 viene poi tagliato lungo le linee di taglio 19 disposte longitudinalmente rispetto al foglio e tra le strisce di rinforzo 12a, in modo da formare il prodotto 20 a striscia completa. Come si può rilevare nelle figure 3 e 4, la striscia completata 20 ha i rettangoli delle linguette 11a completamente coperti sui loro lati superiori dalla striscia continua di rinforzo 12a, mentre gli altri lati degli elementi a linguetta sono coperti dalle strisce di rinforzo 10a, ciascuna delle strisce di rinforzo 10a coprendo completamente una linguetta singola 11a e sporgendo oltre i suoi bordi laterali.

Il metodo generale di sovrapporre strisce di rinforzo rivestite e di tagliare a stampo tali strisce in modo tale che una delle strisce venga tagliata senza produrre una impressione sull'altra striscia è di tipo convenzionale, e tale metodo è simi-

le a quello noto dal precedente brevetto statunitense della stessa Richiedente numero 2.304.787. La caratteristica originale della presente invenzione è costituita
5 dal modo in cui si effettuano i particolari tagli a stampo per ottenere il prodotto finito.

Per l'impiego dell'oggetto secondo l'invenzione, la striscia composita lamellare
10 re 20, costruita come si è detto precedentemente, viene posta in forma avvolta a rotolo su un appropriato erogatore 21 con la striscia di rinforzo continua 12a che ne sporge e che è raddoppiata a spigolo vivo verso l'impiego su se stessa in
15 modo convenzionale. Quando la striscia di rinforzo 12a viene tirata dall'erogatore, le linguette 11a e le strisce di rinforzo 10a vengono separate dalla striscia di
20 rinforzo 12a ed espulse dall'erogatore, come è illustrato nella figura 1, con lo strato adesivo 16 esposto. La linguetta viene poi rovesciata ed applicata alla fotografia od oggetto analogo. La striscia di rinforzo 10a che protegge l'altro lato della
25 linguetta 10a ne sporge verso l'esterno in modo tale da poter essere presa ed asportata dalla linguetta così da rendere esposto l'altro strato adesivo 15 in guisa tale che la fotografia possa poi essere applicata ad una voluta superficie.

Per quanto i tagli a matrice trasversale 18 siano stati indicati come disposti
35 perpendicolarmente rispetto ai tagli longitudinali 17, si deve intendere che si può prescegliere qualsiasi altro angolo tra i tagli, in modo da dare alle linguette 11a una forma a parallelogramma anziché una forma rettangolare come si è illustrata. Inoltre, i tagli 17 debbono però essere non paralleli ai tagli 18.

Si deve intendere che la forma di realizzazione dell'invenzione che è stata descritta ed illustrata deve essere considerata come forma di realizzazione preferita, e che varie modifiche nella forma, nella dimensione e nella disposizione degli elementi potranno essere adottate senza allontanarsi dallo spirito dell'invenzione o dall'ambito delle rivendicazioni
50 allegate.

RIVENDICAZIONI

55 1) Striscia allungata di materiale per linguette, caratterizzata dal fatto di essere dotata di rivestimenti adesivi sensibili alla pressione sulle due facce della striscia, di una prima striscia di rinforzo allungata continua che copre una del-

le facce della detta striscia di materiale da linguette, e di una seconda striscia di materiale di rinforzo e di supporto allungata che copre l'altra faccia della detta striscia di materiale da linguette e
65 che sporge oltre un bordo laterale del detto materiale, la detta striscia di materiale da linguette e la detta seconda striscia di materiale di rinforzo e di supporto essendo tagliate da un bordo all'altro
70 mediante tagli corrispondenti.

2) Striscia allungata di materiale da linguette, caratterizzata dal fatto di comprendere rivestimenti adesivi sensibili alla pressione su ciascuna sua faccia, una
75 prima striscia di rinforzo e di supporto allungata che copre un lato della detta striscia di materiale da linguette, una seconda striscia di supporto e di rinforzo allungata che copre l'altro lato della detta striscia di materiale da linguette, la detta seconda striscia di rinforzo e di supporto essendo più larga della detta striscia di materiale da linguette, ed una
80 pluralità di tagli distanziati da bordo a bordo attraverso la detta seconda striscia di rinforzo e di supporto e la detta striscia di materiale da linguette.

3) Oggetto secondo la rivendicazione 2, caratterizzato dal fatto che le dette
90 prima e seconda striscia di rinforzo e di supporto portano un rivestimento di distacco in contatto con il detto rivestimento adesivo.

4) Pluralità di linguette disposte in contatto di estremità, caratterizzate dal fatto che le dette linguette sono dotate di un rivestimento adesivo sensibile alla pressione su ciascuna delle loro facce, una striscia di rinforzo e di supporto
100 allungata continua coprendo una faccia delle dette linguette ed una pluralità di striscie di rinforzo e di supporto coprendo le altre facce delle dette linguette, ciascuna delle dette strisce di rinforzo
105 e di supporto costituenti la detta pluralità, coprendo una delle linguette e sporgendo oltre uno dei suoi bordi.

5) Oggetto composito a strati, caratterizzato dal fatto di comprendere un primo foglio di rinforzo e di supporto, un foglio di materiale da linguette ed un secondo foglio di materiale di rinforzo e di supporto sovrapposti l'uno sull'altro, il detto foglio di materiale da linguette
110 avendo un rivestimento di materiale adesivo sensibile alla pressione su ciascuna delle sue facce, i detti fogli sovrapposti avendo una prima serie di intagli a stampo paralleli attraverso il detto primo fo-

glio di rinforzo e di supporto ed il detto foglio di materiale da linguette, ed i detti fogli sovrapposti avendo una seconda serie di intagli a stampo paralleli attraverso il detto secondo foglio di rinforzo e di supporto ed il detto foglio di materiale da linguette, la detta seconda serie di tagli essendo non parallela alla detta prima serie di tagli.

6) Oggetto composito a strati, caratterizzato dal fatto di comprendere un foglio allungato di materiale di rinforzo e di supporto, una pluralità di strisce di materiale da linguette sovrapposte sul detto foglio di materiale di rinforzo e le dette strisce di materiale da linguette essendo disposte parallelamente e distanziate l'una dall'altra ed avendo andamento in senso longitudinale rispetto al detto foglio di materiale di rinforzo e di supporto, le dette strisce di materiale da linguette avendo un rivestimento di materiale sensibile alla pressione su entrambe le loro facce, ed una pluralità di strisce continue di materiale di rinforzo e di supporto sovrapposte alle dette strisce di materiale da linguette, il detto foglio di materiale da rinforzo e di supporto essendo tagliato da un suo fianco all'altro ad intervalli distanziati lungo il suo sviluppo longitudinale, i detti tagli passando attraverso le dette strisce di materiale delle linguette sovrapposte.

7) Metodo per produrre un oggetto composito a strati che comprende il sovrapporre un primo foglio allungato di materiale di rinforzo e di supporto, un secondo foglio allungato di materiale di costituzione delle linguette ed un terzo foglio allungato di materiale di rinforzo e di supporto, l'uno sull'altro, il detto secondo foglio avendo un rivestimento di materiale sensibile alla pressione su ciascuna sua faccia, praticare dei tagli attraverso i detti primo e secondo foglio nel senso longitudinale dei fogli medesimi e ad intervalli paralleli distanziati, e

tagliare attraverso i detti secondo e terzo foglio da bordo a bordo dei fogli medesimi degli intagli ad intervalli paralleli distanziati.

8) Metodo per produrre un oggetto composito a strati, caratterizzato dal fatto che si sovrappongono un primo foglio allungato di materiale di rinforzo e di supporto, un secondo foglio allungato di materiale costitutivo per linguette, ed un terzo foglio allungato di materiale di rinforzo e di supporto l'uno sull'altro, il detto secondo foglio avendo un rivestimento di materiale sensibile alla pressione su ciascuna sua faccia, praticare degli intagli attraverso i detti primo e secondo foglio in senso longitudinale dei detti fogli, e ad intervalli distanziati paralleli, praticare degli intagli attraverso i detti secondo e terzo foglio da un fianco all'altro dei fogli medesimi ad intervalli distanziati, ed asportare strisce longitudinali alternate dei detti primo e secondo foglio dal detto terzo foglio.

9) Metodo per produrre un oggetto composito a strati, caratterizzato dal fatto che si sovrappongono un primo foglio allungato di materiale di rinforzo e di supporto, un secondo foglio allungato di materiale costitutivo di linguette, ed un terzo foglio allungato di materiale di supporto e di rinforzo l'uno sopra l'altro, il detto secondo foglio avendo un rivestimento di materiale sensibile alla pressione su ciascuna delle sue facce, praticare degli intagli attraverso i detti primo e secondo foglio nel senso longitudinale dei detti fogli ad intervalli paralleli distanziati, praticare degli intagli attraverso i detti secondo e terzo foglio da un bordo all'altro, ad intervalli distanziati, asportare strisce in senso longitudinale, alternate dei detti primo e secondo foglio dal detto terzo foglio, e tagliare il detto terzo foglio nel suo senso longitudinale tra le strisce rimanenti dei detti primo e secondo foglio sovrapposti.

Allegato 1 foglio di disegni

Prezzo L. 200

**IMPROVEMENT IN THE STRUCTURE OF ADHESIVE TABS IN TAPE FORM AND
RELATIVE METHOD OF MANUFACTURING**

[Perfezionamento nella struttura delle linguette adesive
predisposte a nastro e relativo methodo di fabbricazione]

Avery Adhesive Label Corp., Monrovia, California (U.S.A.)

UNITED STATES PATENT AND TRADEMARK OFFICE
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Relative Method of Manufacturing

IMPROVEMENT IN THE STRUCTURE OF ADHESIVE TABS IN TAPE FORM
AND RELATIVE METHOD OF MANUFACTURING

By Avery Adhesive Label Corp., Monrovia, California (U.S.A.)

The present invention refers to a structure of adhesive tab and, in particular, to a structure of adhesive tab in which the adhesive tab is covered by protective reinforcing material on both its sides and which can be quickly dispensed and used.

More particularly, the present invention refers to a tab endowed with pressure-sensitive adhesive on both its sides and that can be used to hold objects when mounting, as, for example, for mounting photographs in an album, for mounting signs on walls or for other similar purpose. Moreover, the present invention refers to a way in which such tabs can be produced, so that they can be easily kept and protected before using, can be easily dispensed when necessary, and can be easily applied to the surfaces to which they are destined.

A principle aim of the present invention is that of providing a strip of tabs arranged in succession, end-to-end, each of which

¹ Numbers in the margin indicate pagination in the foreign text.

has a coating of pressure-sensitive adhesive on each side, a continuous strip of reinforcing material covering one side of the tabs, while a plurality of reinforcing strips material cover the other sides of the aforesaid tabs, so that each of the latter strips mentioned completely covers a single tab and sticks out from it toward the outside.

A further aim is that of providing an original method for forming a composite laminar element, as indicated in the previously enunciated aim.

Other aims and other advantages of the present invention will become clear from the development of the present detailed description.

In the designs which make up the present request, and in which the same parts stand out, in all the figures, are found the same reference numbers.

Figure 1 illustrates the use of a laminar composite strip, as formed according to the present invention, by means of a dispenser.

Figure 2 is a prospective view of the laminar elements in sheet form, with some parts removed and with an exaggerated thickness of the sheets, which illustrates the way in which the laminar object is produced;

Figures 3 and 4 are overviews, respectively lateral and of the extremity of the complete strip, the thickness of the various layers which make up the object being exaggerated.

Figures 5 and 6 are views from above and from below of a part of the longitudinal development of the laminar sheets, with some parts removed to illustrate the way in which the prearranged cuts are made through the sheets.

In manufacturing the object according to the present invention, one sheet of reinforcing material (10), a sheet of material (11) destined to form the tabs, and a sheet of reinforcing material (12) are fed, each in continuous tape form, to a coating application machine which coats the reinforcing sheets (10 and 12) with separation coatings (13 and 14, respectively), and that coats the material forming the tabs with pressure-sensitive adhesive coatings (15 and 16) on each side. The three continuous sheets (10, 11, and 12) are then taken under a pressure roller arranged above in such a way as to form a continuous composite sheet with three layers.

The term "reinforcing material," as used in technology, includes substances such as "glassine" paper or other similar material which is flexible and has a relatively hard surface. The term "separation coating," as used in technology, refers to pressure-sensitive coatings, adhesives, apt to adhere to a

reinforcing material, but which have a low affinity for the pressure-sensitive adhesive coatings (15 and 16) of the sheet of material (11) for the tabs. The material of the tabs can be made of relatively soft paper or from the reinforcing material previously described, according to one's wish.

The composite sheet formed in this way is then brought under a matrix cutting roller, so that some of the matrices which work against the relatively hard surface of reinforcing sheet (10) make a incision through reinforcing material (12) and the sheet of tab material (11) along the plurality of parallel cut lines (17) arranged longitudinally with respect to the composite sheet, without making an incision in reinforcing sheet (10).

The composite sheet is then sent through another setup of matrix cutting rollers, which make cuts through reinforcing sheet (10) and the tab material (11), along the spaced parallel cut lines (18) arranged transversely with respect to the composite sheet, without making incisions on reinforcing sheet (12).

As a consequence of these two cutting operations, reinforcing sheet (10) will consist of a plurality of strips (10a) going transversely, while reinforcing sheet (12) will consist of a plurality of strips arranged longitudinally (12a and 12b), alternately broad and narrow, as can be observed in Figures 5 and 6. The tab material (11) is divided into a plurality of

rectangles (11a) having a length equal to the width of the reinforcing strips (10a) and having a width equal to the width of the reinforcing strips (12a). The tab material is, moreover, also cut into rectangles of similar length (11b), which have a width equal to the width of the reinforcing strips (12b).

The narrow strips (11b and 12b) of the tab material (11) and of reinforcing sheet (12) are then pulled from reinforcing sheet (10) and thrown away, leaving the other continuous longitudinal reinforcing strips (12a) spaced one from another and superimposed on the series of rectangles of tab material (11a), both such parts being superimposed on reinforcing strips (10a) arranged transversely, as illustrated in Figure 2. Reinforcing sheet (10) is then cut along cut lines (19) arranged longitudinally with respect to the sheet and between reinforcing strips (12a), so as to form completed strip product (20). As can be observed in Figures 3 and 4, completed strip (20) has rectangles of tabs (11a) completely covered on the upper sides by continuous reinforcing strip (12a), while the other sides of the tab elements are covered by reinforcing strips (10a), each of the reinforcing strip (10a) completely covering a single tab (11a) and sticking out over its lateral edges.

The general method of superimposing coated reinforcing strips and of stamp cutting such strips in such a way that one of the

strips is cut without producing an impression on the other strip is of conventional type, and such a method is similar to that known from the previous United States patent of the same Petitioner, number 2,304,787.

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The original character of the present invention is constituted by the way in which the particular stamped cuts are made to obtain the finished product.

To use the object according to the invention, the laminar composite strip (20), composed as said previously, is put in rolled-up form on an appropriate dispenser (21), with the continuous reinforcing strip (12a) which sticks out and is doubled back on itself in conventional form. When the reinforcing strip (12a) is pulled from the dispenser, the tabs (11a) and the reinforcing strips (10a) are separated from reinforcing strip (12a) and expelled from the dispenser, as is illustrated in Figure 1, with the adhesive layer (16) exposed. The tab is then turned over and applied to the photograph or similar object. The reinforcing strip (10a) which protects the other side of tab (10a) sticks out from it toward the outside in such a way that it can be taken and removed from the tab, so as to expose the other adhesive layer (15), such that the photograph can then be applied to a desired surface.

In as much as transverse matrix cuts (18) have been indicated as arranged perpendicularly with respect to the longitudinal cuts (17), it should be understood that any other angle between the cuts may be preselected, so as to give the tabs (11a) a parallelogram rather than a rectangular form as is illustrated. However, cuts (17) should be nonparallel to cuts (18).

It should be understood that the form of making the invention that has been described and illustrated must be considered as the preferred form and that various modifications in the form, dimension, and arrangement of the elements can be adopted without getting away from the spirit of the invention or the range of attached claims.

CLAIMS

1) Elongated strip of material for tabs, characterized by the fact of being endowed with pressure-sensitive adhesive coatings on the two faces of the strip, of a first continuous, elongated reinforcing strip which covers one of the faces of the said strip of tab material, and a second strip of support and reinforcing material which covers the other face of the said strip of tab material and sticks out over a lateral edge of the said material, the said strip of tab material and the said second strip of support and reinforcing material being cut from one edge to the other by means of corresponding cuts.

2) Elongated strip of tab material, characterized by the fact of including pressure-sensitive adhesive coatings on each face, a first elongated support and reinforcing strip which covers one side of the said strip of tab material, a second elongated reinforcing and support strip which covers the other side of the said strip of tab material, the said second support and reinforcing strip being wider than the said strip of tab material, and a plurality of spaced cuts from edge to edge across the said second support and reinforcing strip and the said strip of tab material.

3) Object according to claim 2, characterized by the fact that the said first and second support and reinforcing strip bear a separation coating in contact with the said adhesive coating.

4) Plurality of tabs arranged in contact at the extremities, characterized by the fact that the said tabs are endowed with a pressure-sensitive adhesive coating on each of their faces, a continuous, elongated reinforcing and support strip covering one face of the said tabs and a plurality of support and reinforcing strips covering the other faces of the said tabs, each of the said support and reinforcing strips constituting the said plurality covering one of the tabs and sticking out over one of its edges.

5) Composite layered object, characterized by the fact of including a first support and reinforcing sheet, a sheet of tab material, and a second sheet of support and reinforcing material, superimposed one on the other, the said sheet of tab material having a coating of pressure-sensitive adhesive material on each of its faces,

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the said superimposed sheets having a first series of parallel stamped cuts across the said first support and reinforcing sheet and the said sheet of tab material, and the said superimposed sheets having a second series of parallel stamped incisions across the said second support and reinforcing sheet and the said sheet of tab material, the second series of cuts being nonparallel to the said first series of cuts.

6) Composite layered object, characterized by the fact of including an elongated sheet of support and reinforcing material, a plurality of strips of tab material superimposed on the said sheet of reinforcing material and the said strips of tab material being arranged parallel and spaced one from the other and going in a longitudinal direction with respect to the said sheet of support and reinforcing material, the said strips of tab material having a coating of pressure-sensitive material on both their faces, and a plurality of continuous strips of support and

reinforcing material superimposed on the said strips of tab material, the said sheet of support and reinforcing material being cut from one side to the other at spaced intervals along its longitudinal development, the said cuts passing across the said strips of superimposed tab material.

7) Method to produce a layered composite object which includes superimposing a first elongated sheet of support and reinforcing material, a second elongated sheet of the material constituting the tabs and a third elongated sheet of support and reinforcing material, one on the other, the said second sheet having a coating of pressure-sensitive material on each face; to make cuts across the said first and second sheet in the longitudinal direction of the same sheets and at spaced parallel intervals; and to cut incisions across the said second and third sheet from edge to edge of the same sheets at spaced parallel intervals.

8) Method to produce a layered composite object, characterized by the fact of superimposing a first elongated sheet of support and reinforcing material, a second elongated sheet of material constituted by tabs, and a third elongated sheet of support and reinforcing material, the one on the other, the said second sheet having a coating of pressure-sensitive material on each face; to make incisions across the said first

and second sheet in the longitudinal direction of the said sheets and at parallel spaced intervals; to make incisions across the said second and third sheet from one side to the other of the same sheets at spaced intervals; and to remove alternate longitudinal strips of the said first and second sheet from the said third sheet.

9) A method to produce a layered composite object, characterized by the fact of superimposing a first elongated sheet of support and reinforcing material, a second elongated sheet of material constituted by tabs, and a third elongated sheet of reinforcing and support material, one over the other, the said second sheet having a coating of pressure-sensitive material on each of its faces; to make incisions across the said first and second sheet in the longitudinal direction of the said sheets at spaced parallel intervals; to make cuts across the said second and third sheets from one edge to the other at spaced intervals; to remove strips in a longitudinal direction, alternates of the said first and second sheet from the said third sheet; and to cut the said third sheet in its longitudinal direction between the remaining strips of the said superimposed first and second sheet.

Attached one sheet of designs

Price L. 200

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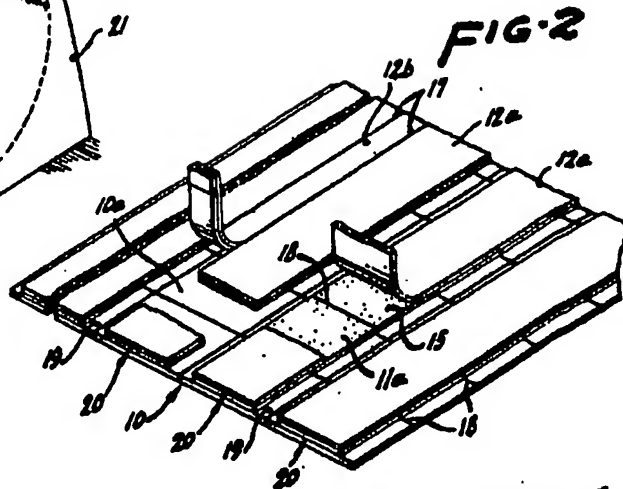
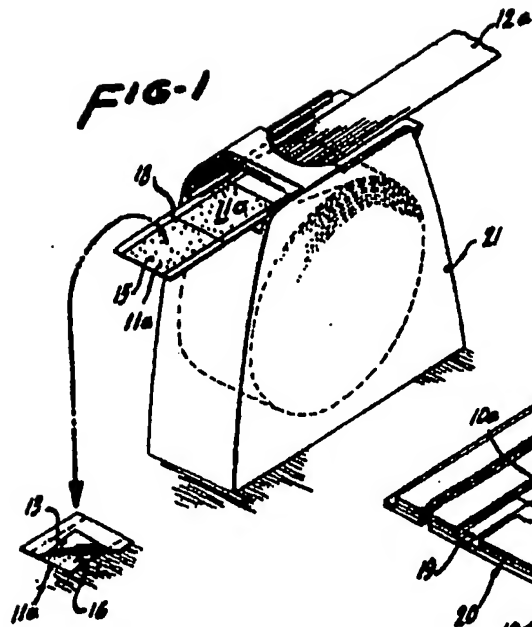


FIG-3

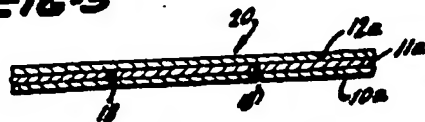
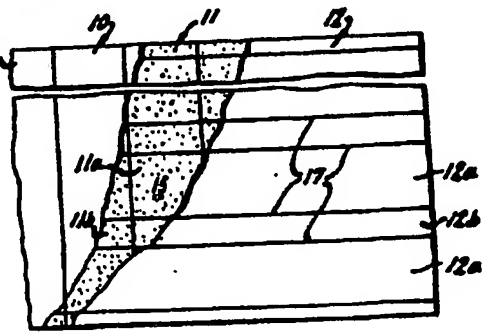
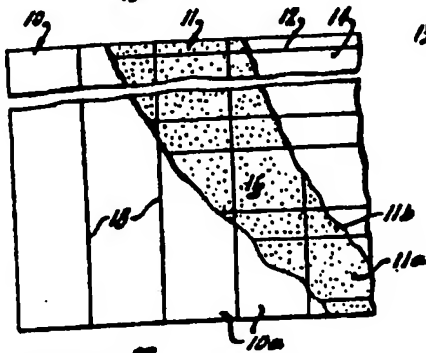


FIG-4



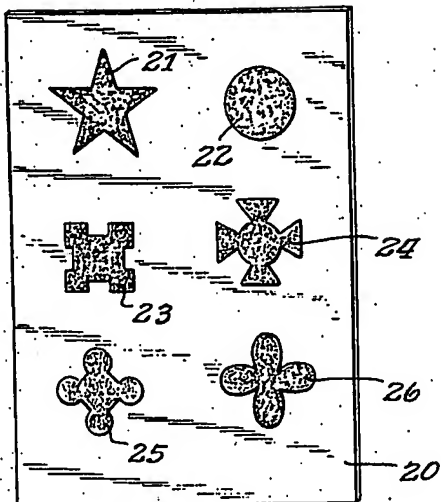
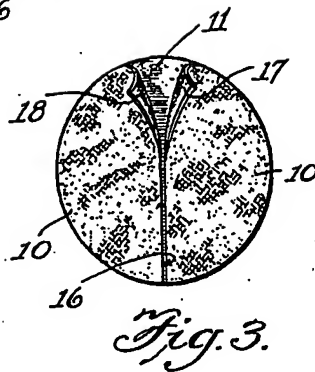
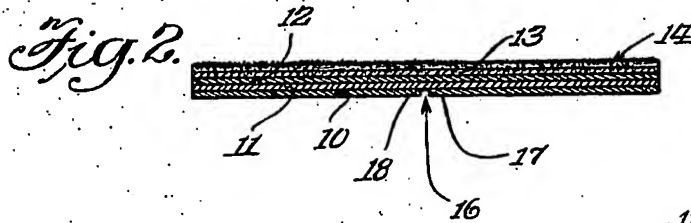
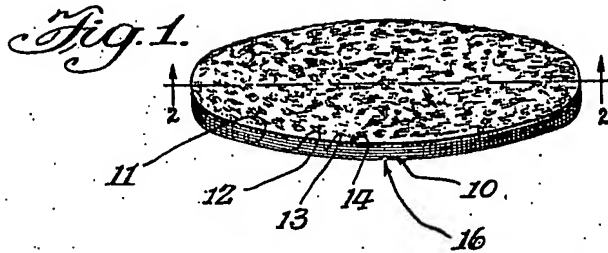
Oct. 19, 1937.

L. R. BODE

2,096,389

DECORATIVE MATERIAL

Filed Feb. 26, 1936



Inventor:
Lester R. Bode.

By McLaughlin & Wallenstein

Attys.

UNITED STATES PATENT OFFICE

2,096,389

DECORATIVE MATERIAL

Lester R. Bode, St. Paul, Minn., assignor to Tinsel Tape, Incorporated, Chicago, Ill., a corporation of Illinois

Application February 28, 1936, Serial No. 65,764

1 Claim. (Cl. 154-47)

My invention relates to the art of decorative material and is particularly concerned with material which may be used for the decoration of theatrical costumes and the like, although, as will be apparent, its field of utility is broad.

It has hitherto been proposed to make tinsel or glittering fabrics or the like by providing a fabric body with an adhesive on one or both surfaces thereof and embedding in said adhesive metallic powders, finely cut paper, comminuted glass, etc. It has also been suggested in the past to prepare ornamental material for packing and wrapping purposes by coating paper or the like on one surface with thermoplastic adhesive material and affixing thereto the material to obtain the desired ornamental effects such as finely divided cork, metals, mica, feathers, pigments, and similar material.

In general, my invention comprises providing a flexible fabric body, preferably material like the well known surgical tape. A coating of a suitable non-drying adhesive is applied to both surfaces of said material and then only one of said surfaces is treated with tinsel flitter, paper flitter, "Cellophane" flitter, metallic powders and the like to coat the same to obtain the desired ornamental effects. The other surface of the material, which is coated with the non-drying adhesive, may then be caused to adhere to any suitable surface such as clothing, paper, cardboard, the human skin, etc. To protect the adhesive surface until the material is ready for use, I provide a liner or backing of paper, "Cellophane", cardboard or similar material which may be readily stripped from the decorative material.

It is accordingly an object of my invention to provide an improved decorative or ornamental material, particularly for use on festive occasions.

Another object of my invention is to provide an improved decorative or ornamental material which is simple and economical to manufacture and which possesses a wide range of usage.

A still further object of my invention is to provide a decorative material which will simplify the ornamentation of theatrical costumes and the like.

With these and other objects which will become apparent as the description of my invention proceeds, I shall now make reference to the drawing illustrating my invention and wherein

Figure 1 represents a perspective view of one embodiment of my invention.

Figure 2 is a sectional view taken along the

line 2-2 of Figure 1 and is shown in enlarged form for purposes of clarity.

Figure 3 represents a view looking upwardly against the bottom of Figure 1, the split backing portion being turned back slightly to show the manner of removing the backing portion.

Figure 4 is a perspective view of a modified form of my invention wherein the decorative material is mounted upon a card or similar backing material.

As is shown in Figures 1, 2 and 3, the ornamental material of my invention comprises a backing 10 upon which is attached the decorative object. The latter comprises a fabric such as paper, "Cellophane", cloth or, preferably, surgical tape or like material, denoted by the numeral 12, and provided on opposite sides with a non-drying or moist adhesive, denoted by the numerals 11 and 13. The adhesive surface 13 serves to hold suitable material 14 such as cloth, cut paper, comminuted "Cellophane", metallic powders, finely divided cork, mica, feathers, etc., which is applied in any suitable manner and pressed into the adhesive surface 13 to obtain a strong adhesion. In the case of the use of the so-called flock or tinsel flitter material or finely divided or comminuted materials, such may be distributed over the surface of the adhesive and the resulting article passed between rollers in a manner well known in the art to unite the decorative material to the fabric through the medium of the adhesive coating 13.

The backing 10 is preferably made of paper or similar material and serves to protect the adhesive coating 11 from contamination and to facilitate the handling and shipment of the decorative material until it is ready for use, at which time said backing may be stripped from the decorative material and the latter utilized for its intended purposes. To facilitate the stripping of the backing 10, I provide it in two parts which are separated by the very narrow slit 16. To effect the stripping, the decorative object with its attached backing may be flexed or bent back upon itself along the slit 16. This will result in a slight parting of the backing from the adhesive 11 along the edge of said backing. The backing 10 may then easily be grasped with the fingers or between the finger nails and peeled or pulled away from the adhesive. This arrangement prevents the tendency to cause the material 14 to flake off around the edges as might occur if the backing had to be removed by separating it from along the peripheral edge. Fig-

ure 3 discloses the parts 17 and 18 of the backing partly pulled away from the adhesive coating.

In Figure 4, I have disclosed a plurality of decorative objects attached to a support or mounting card 20 which serves in part the same general purpose as is achieved through the use of the backing 10 in the embodiment of my invention covered in Figures 1, 2 and 3. In other words, the adhesive material of the decorative objects serves to unite the latter to the support 20 from which they may be removed for use as desired. This embodiment of my invention makes for simple and economical handling and shipment of the decorative objects or materials. As is shown in Figure 4, the objects may take various ornamental shapes or forms, variant aspects thereof being indicated by way of illustration by numerals 21—26, inclusive.

In use, the decorative material is stripped from its backing or support and is pressed upon any desired surface to which it will readily adhere and from which it may be readily removed without leaving any undesirable marks. Thus, theatrical costumes and fabrics may be decorated including dresses, hats, ties, suits, shoes and stockings. Similarly, the decorative material may be affixed to the human skin. It can also be used for decorating packages and boxes, pictures, curtains, and for numerous other purposes which will readily be appreciated by those versed in the art.

It is evident that the decorative material may take various forms and shapes. Thus, the ornamental articles may be made in circular, triangular, square, hexagonal, star and any other desired shapes. Similarly, the decorative material 14 may take the various forms mentioned in an earlier part of this description and includes such materials as tinfoil, aluminum foil and the metal foils broadly. The finished material may also be made up in the form of stripping so that it can be sold or merchandised by the yard or the like.

The adhesive which I employ has been described as being of the non-drying type. By this I mean that type of adhesive which is naturally moist and requires neither moisture nor other extraneous means to bring out its adhesive properties. The most common example of the type of adhesive which I contemplate is that employed on the conventional adhesive tape. This is so

well known to chemists versed in the art that no useful purpose would be served by describing specific formulae which are suitable for my purposes.

While I have described my invention in considerable detail, it is apparent that numerous variations may be made therein without departing from the spirit of my invention as defined in the appended claim. Thus, for example, for the adhesive 13 I may substitute alternative types of adhesives such as thermoplastic adhesives, or those which exert adhesive properties when moistened, for the purpose of bonding the flocks, flitter or the like to the fabric. The adhesive on the opposite surface of the fabric or the like and which serves to unite the ornamental object to the backing or supporting plate or the like is, however, of the aforementioned non-drying type. While this variation is within the broad scope of my invention, it is not so satisfactory as the preferred embodiment of my invention which I have fully described heretofore.

It is to be understood that my invention is not to be limited other than by the terms of the appended claim and the prior art.

What I claim as new and desire to protect by Letters Patent of the United States is:

Decorative material for application to theatrical and similar costumes, said decorative material being in the shape of an ornamental design of a type commonly employed for decorative purposes and comprising tape having a layer of adhesive on one side thereof, comminuted ornamental material imbedded in said adhesive so as to form a decorative surface, a layer of non-drying adhesive of the type employed on surgical tape attached to the opposite side of said tape, and a backing essentially entirely covering said non-drying adhesive, said backing having a slit therein and formed of relatively stiff material whereby such backing may be removed readily without causing the comminuted material to flake off or become roughened at the edges of the design, said non-drying adhesive being of such character that, when the backing is removed from the tape, the decorative material can readily be adhesively applied to the cloth of a costume and can readily be stripped therefrom without leaving a mark thereon.

LESTER R. BODE.

[54] PRESSURE SENSITIVE SEAL

[75] Inventor: Richard A. Kriozere, Highland Park, Ill.

[73] Assignee: Professional Tape Company, Inc., Burr Ridge, Ill.

[21] Appl. No.: 25,282

[22] Filed: Mar. 29, 1979

[51] Int. Cl. B32B 7/06; B32B 7/12

[52] U.S. Cl. 428/41; 428/43; 428/121; 428/40; 229/62; 150/7

[58] Field of Search 428/40, 41, 121; 150/7; 229/62

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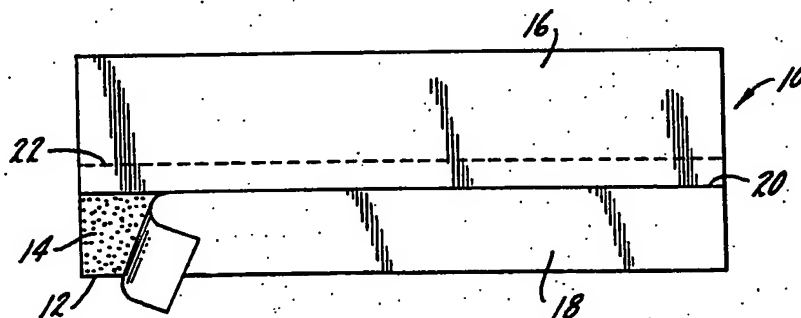
Primary Examiner—George F. Lesmes
Assistant Examiner—Alexander S. Thomas

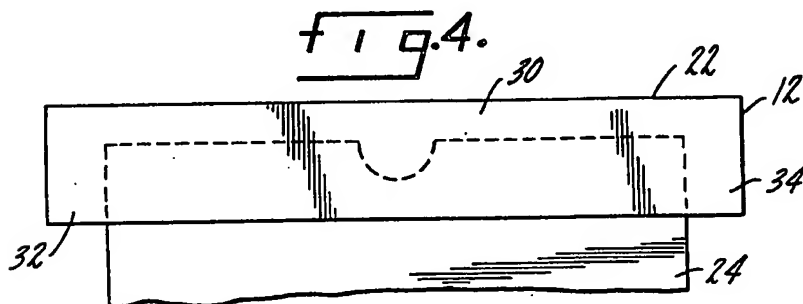
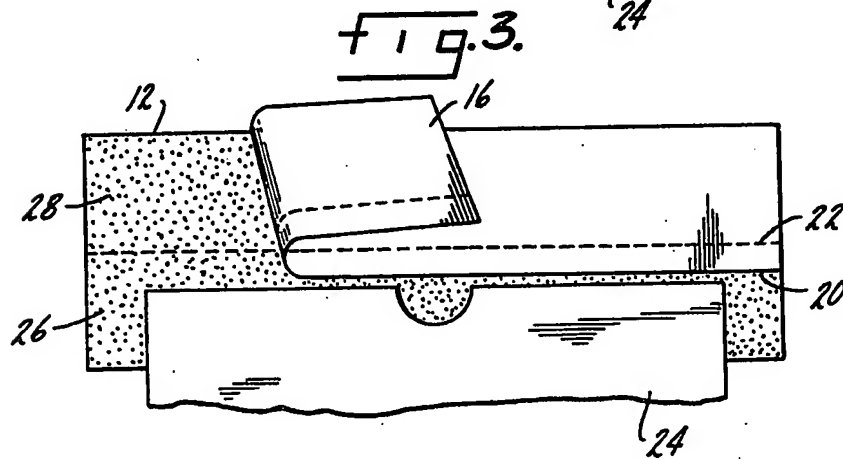
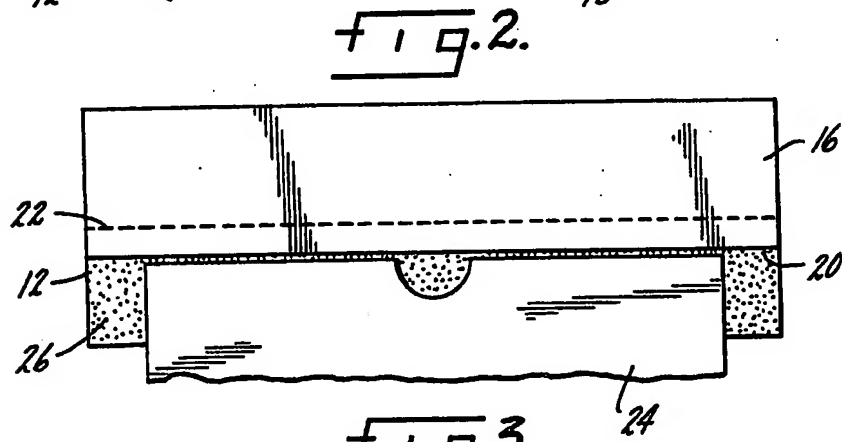
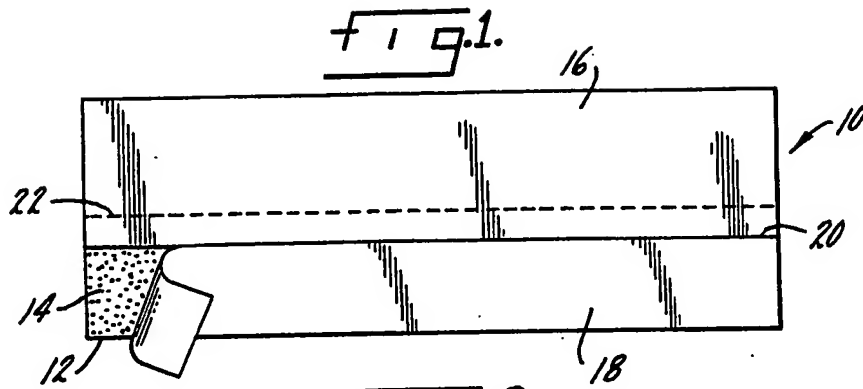
Attorney, Agent, or Firm—Kinzer, Plyer, Dorn & McEachran

[57] ABSTRACT

A pressure sensitive seal member for providing a complete adhesive-to-adhesive seal for the open end of a pouch includes a strip of face stock having a pressure sensitive adhesive on one face. There are two removable backing strips covering the adhesive and they are in edge contact along a generally longitudinal line. The face stock has a generally longitudinal fold perforation which is offset from the line of edge contact and is covered by one of the backing strips. When the seal member is applied, first one of the backing strips is removed with the fold perforation remaining covered. One side of the pouch open end is applied to the exposed adhesive surface. Subsequently, the other backing strip is removed exposing the fold perforation. The strip is folded and that portion of the adhesive covered surface on the opposite side of the fold and formerly covered by the backing strip is applied to the remaining side of the pouch. The face stock is adhesively secured to opposite sides of the pouch and there is adhesive-to-adhesive contact between portions of the face stock directly adjacent the pouch opening.

2 Claims, 4 Drawing Figures





PRESSURE SENSITIVE SEAL

SUMMARY OF THE INVENTION

The present invention relates to adhesive seal members and particularly such seal members which are used to close the open end of sterilized pouches.

One purpose of the invention is a seal member of the type described which is in strip form and has face stock covered by a pressure sensitive adhesive, which adhesive is covered by a pair of removable backing sheets or liners. The liners are in edge contact along a line which is offset from the fold perforation of the face stock.

Another purpose is a seal member of the type described which provides adhesive-to-adhesive integrity completely around the open end of the pouch to be sealed.

Another purpose is a pressure sensitive seal member of the type described which not only provides adhesive-to-adhesive integrity along the open end of the pouch, but also along its sides.

Another purpose is a simply constructed reliably operable pressure sensitive seal of the type described.

Other purposes will appear in the ensuing specification, drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is illustrated diagrammatically in the following drawings wherein:

FIG. 1 is a plan view of the pressure sensitive seal member,

FIG. 2 is a similar plan view showing one of the backing strips removed and the seal member applied to the open end of the pouch,

FIG. 3 is a similar plan view showing removal of the other backing strip, and

FIG. 4 is a plan view of the seal member completely applied to the open end of the pouch.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention relates to pressure sensitive seal members as particularly used in sealing the open end of sterilized pouches. The invention, however, has wider application. The seal member is provided in strip form, which strips may be individually cut prior to sale, or may be sold in a roll with tear-off perforations for various strip lengths or the seal member may be sold in a non-perforated roll so that the user merely cuts off the desired length of strip. Regardless of the marketing form, the invention is specifically directed to the makeup of the seal member itself.

It is essential in sealing sterilized pouches, for example those customarily used in hospital operating rooms or similar areas, that the seal be complete; that is, there be no possibility of contamination reaching the interior of the pouch after the pouch has been sterilized. To meet this requirement it is necessary that there be adhesive-to-adhesive contact around the open end of the pouch. With such contact, it is insured that no contamination will reach the pouch interior.

In addition, the seal must be easily and quickly applied. Otherwise, there is a tendency to not provide the necessary complete seal described above.

In FIG. 1 a seal member is indicated generally at 10 and includes a lower layer, commonly designated by the trade as the "face stock" and indicated at 12. Face stock 12 may have one side or face 14 covered by a pressure

sensitive adhesive which may be one of a number of products commonly used for this purpose and readily available on the market. Adhesive face 14 is covered by two liners or backing strips indicated at 16 and 18. Backing strips 16 and 18 are in edge contact along a line 20 which runs generally longitudinal of member 10.

Face stock 12 has a fold perforation 22 which is generally centrally located. The exact location of the fold perforation is not important, but what is significant is that the fold perforation 22 be spaced from parting line 20 of the backing strips. Thus, one of the backing strips may be removed and the fold perforation will not be exposed or uncovered.

In the application of the described seal member to a pouch, for example a pouch which may be used to contain a sterilized instrument, the first step is to peel off backing strip 18, as illustrated in FIG. 1. Once this has been done, then one side of the open end of a pouch 24 is applied to exposed area 26 formerly covered by backing strip 18, as in FIG. 2. Note that the end of the pouch is spaced from the fold perforation and that the side of the pouch applied to area 26 is in complete contact with adhesive.

The next step is to remove the other backing strip or backing strip 16, as illustrated in FIG. 3. When this is done, not only is the remaining area 28 of the face stock exposed, but the fold perforation is also exposed. The face stock is then folded along fold perforation 22 and that portion of the adhesive surface 28, on the side of the fold perforation away from the open end of the pouch, is then applied to the opposite side of the pouch. Thus, each side of the pouch adjacent the open end is in complete contact with an adhesive surface.

In addition, and of more significance, is the fact that when the face stock is folded upon itself there is adhesive-to-adhesive contact in the area 30 of FIG. 4. Because the fold perforation is offset from parting line 20 of the liners or backing strips when the face stock is folded upon itself there will be adhesive-to-adhesive contact between opposite portions of the face stock directly adjacent the open end of the pouch. In addition to the adhesive-to-adhesive integrity along the top of the open end of the pouch, areas 32 and 34 at opposite sides of the open end of the pouch will also have adhesive-to-adhesive integrity. This is because customarily the seal strip will be slightly longer than the open end of the pouch.

Because pouches of the type customarily sealed in the manner described and used for medical purposes will be of various sizes, the seal members may be marketed in different lengths or they may be marketed in the above-described rolls. What is important, however, is that the seal member have the fold-parting line relationship described above so that when the first backing strip is removed, the fold perforation is not exposed. In this way, when the second backing strip is removed, and the face stock is folded upon itself, there will necessarily be adhesive-to-adhesive integrity across the top of the open end of the pouch.

Whereas the preferred form of the invention has been shown and described herein, it should be realized that there may be many modifications, substitutions and alterations thereto.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

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1. A pressure sensitive seal member for providing a complete adhesive-to-adhesive seal for the open end of a pouch including a strip of face stock having a pressure sensitive adhesive covering one face thereof, removable backing strips covering said adhesive face and being in edge contact along a generally longitudinal line, said face stock having a generally longitudinal fold perforation which is offset from the generally longitudinal edge contact line, said fold perforation being covered by one of said backing strips,

when said seal member is applied, first the other of said backing strips is removed so that said fold perforation remains covered, one side of the pouch open end is applied to the exposed adhesive face, subsequently, the other backing strip is removed, exposing the fold perforation, the face stock is then

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folded at the fold perforation and that portion of the formerly covered adhesive face on the opposite side of the fold perforation is applied to the other side of the pouch open end whereby the open ends of the pouch each have an adhesive seal with the face stock and directly adjacent and along the pouch open end there is adhesive-to-adhesive contact between folded areas of the face stock, said strip having a length slightly greater than the open end of the pouch whereby there is also adhesive-to-adhesive contact between folded portions of the face stock at opposite sides of the pouch open end.

2. The pressure sensitive seal of claim 1 further characterized in that said fold perforation is generally centrally located on said strip.

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US005168831A

United States Patent [19]

Ittershagen et al.

[11] **Patent Number:** 5,168,831[45] **Date of Patent:** Dec. 8, 1992[54] **TACKY-SURFACE ANIMAL REPELLER**[76] **Inventors:** Stephen J. Ittershagen; Daniel C. Ittershagen, both of 6767 W. Butler, No. 133, Glendale, Ariz. 85301[21] **Appl. No.:** 854,869[22] **Filed:** Mar. 20, 1992[51] **Int. Cl.⁵** A01K 15/00[52] **U.S. Cl.** 119/29[58] **Field of Search** 119/29; 52/101; 43/114, 43/115, 136[56] **References Cited****U.S. PATENT DOCUMENTS**

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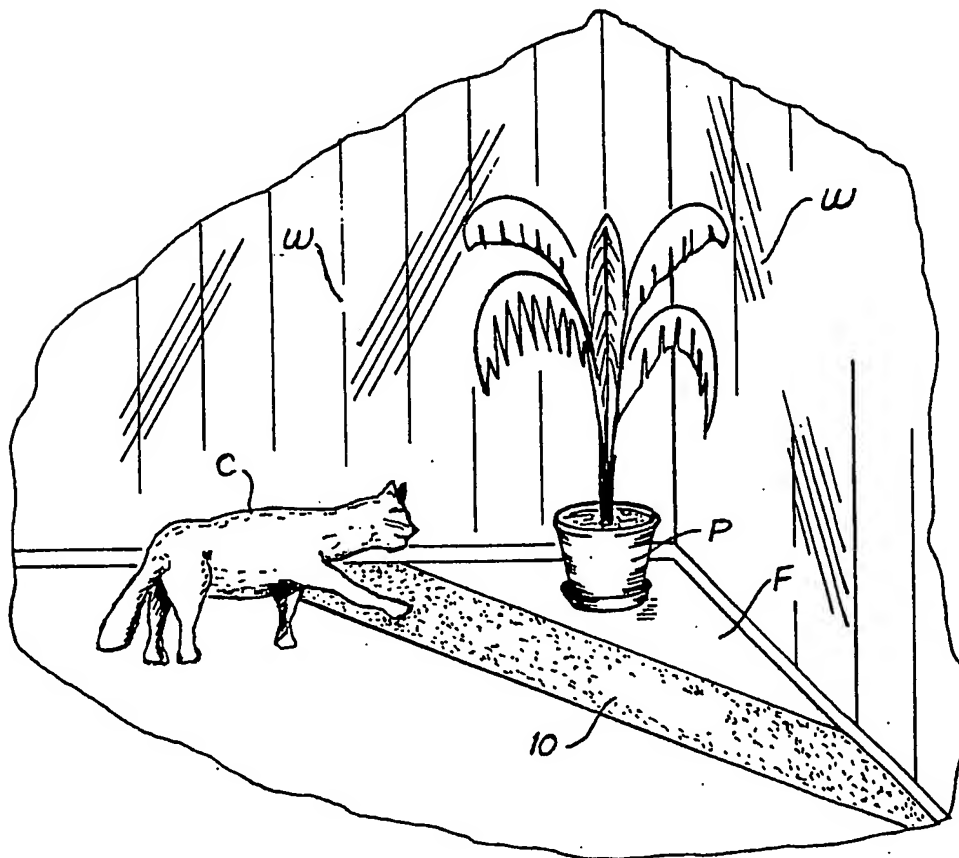
Primary Examiner—Gene Mancene*Assistant Examiner*—Thomas Price*Attorney, Agent, or Firm*—Antonio R. Durando; Harry M. Weiss

[57]

ABSTRACT

A sheet of flexible transparent material that is coated on both sides with non-permanent adhesives. The coating on one side is designed to adhere to typical coverings, such as tile and carpet, and yet be easily removable at will. The coating on the other side is preferably stronger, designed to stick to the paws of an animal stepping over it and require a forceful and unpleasant effort for the animal to free itself from its grip. After repeated encounters with the device, the animal is trained to stay away from it and from the location associated with it. The sheet of adhesive material can be cut to the desired shape to conform to the particular needs of the area or object selected for protection.

9 Claims, 1 Drawing Sheet



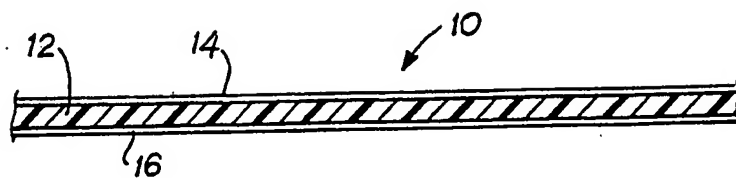


FIG. 1

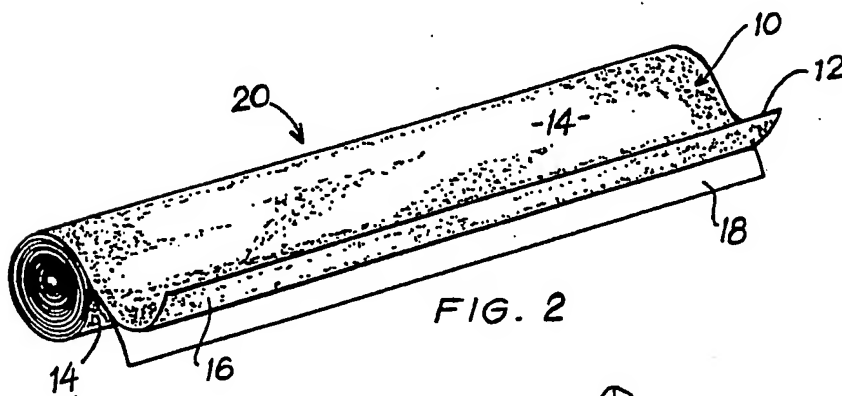


FIG. 2

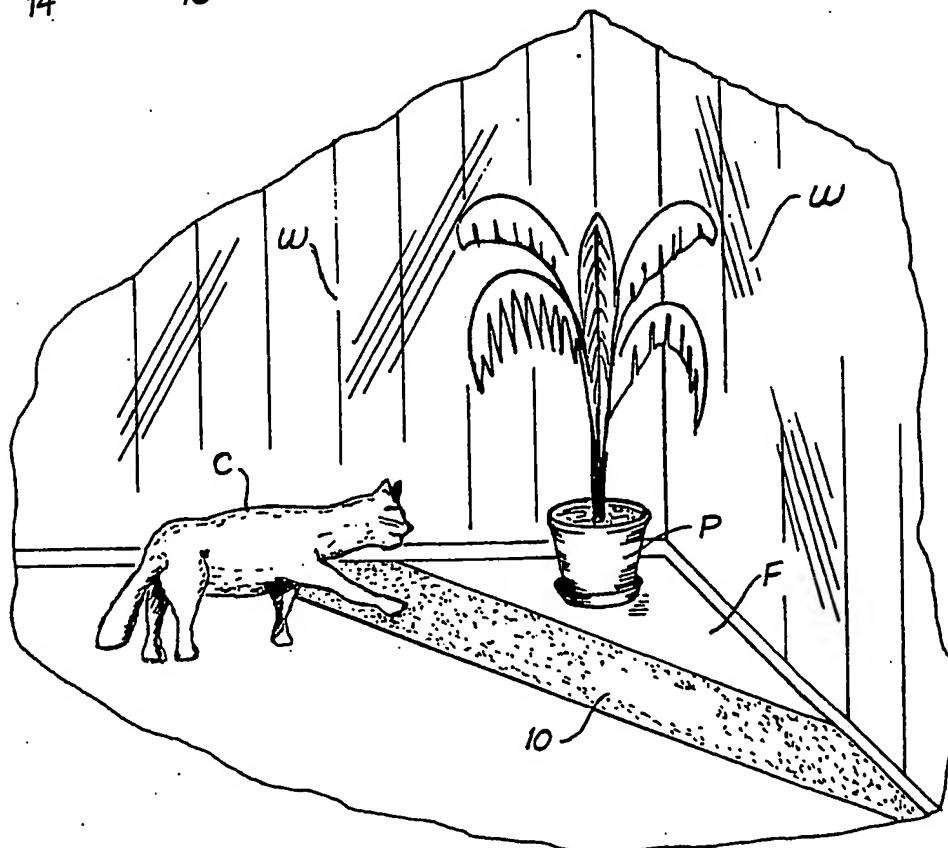


FIG. 3

TACKY-SURFACE ANIMAL REPELLER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is related to the general field of animal repellant devices. In particular, the invention provides a method and apparatus for keeping dogs, cats, and other domestic animals outside of a given area where their presence is not desired.

2. Description of the Prior Art

A common problem experienced by pet owners is a simple way to keep their animals away from certain areas, specially in a home or business environment. Some animals, such as dogs and cats, tend to cause damage to fixtures and furniture by scraping, scratching, and eating plants to satisfy their grooming and playing needs. The owners' efforts in training a pet not to enter certain areas of the house or building are usually marked by limited success; and the forceful reclusion of the animal to a specific space, such as a locked room or pen, often results in severe damage to surround articles.

Thus, people normally either allow their pets to roam freely or restrict them by means of chains or similar restraining devices.

This invention is directed at providing a simple means for training a domestic ground animal, such as a dog or a cat, to stay away from certain delineated areas without resorting to such drastic restraining apparatus. The invention is based on the principle that animals find it uncomfortable to have extraneous material stick to their paws and will avoid stepping over anything that they know might become attached to them.

A prior art search revealed some patents that describe the use of adhesive materials and of electrical charge to trap or effect the behavior of insects and other animals. For example, U.S. Pat. No. 3,816,956 to Sekula (1974) illustrates an adhesive tape to catch insects. U.S. Pat. No. 4,800,671 to Olson (1989) discloses an elongated insect trap formed in a recessed area of a strip of flexible material wrapped around the trunk of a tree. Finally, in U.S. Pat. No. 4,949,216 (1990), Djukastein shows an electrified mat that gives a repelling shock to an animal stepping over it.

None of the referenced patents teaches a device that can be used for training a cared-for, pet animal to stay away from predetermined areas or objects without the direct use of physical restraints. Therefore, this invention provides such an apparatus, both as a deterrent to encroachment and as a training tool.

BRIEF SUMMARY OF THE INVENTION

One objective of this invention is the development of simple animal repellant apparatus that works by having an adhesive surface that sticks to the paws of the animal stepping on it, thus giving it an uncomfortable feeling and providing negative feedback for training purposes.

Another goal of the invention is a device that can be placed on the floor around an area or an object desired to be kept off-limits to pet animals.

Another objective of the invention is apparatus that can be tailored to the particular geometry of the area or object chosen for protection.

A further goal is that the apparatus be inconspicuous to the animal, so that its effects continue after a period of training even though the apparatus is no longer used.

Still another objective of the invention is an apparatus that is unobtrusive and does not interfere with the normal use of the premises while the animal is being trained.

A final objective of this invention is the realization of the above mentioned goals in an economical and commercially viable manner. This is done by utilizing components and methods of manufacture that are either already available in the open market or can be developed at competitive prices.

According to these and other objectives, the preferred embodiment of the present invention consists of a sheet of transparent material coated on both sides with non-permanent adhesives. The coating on one side is designed to adhere to typical floor coverings, such as tile and carpet, and yet be easily removable at will. The coating on the other side is preferably stronger, designed to stick to the paws of an animal stepping on it and require a forceful and unpleasant effort for the animal to free itself from its grip. After repeated encounters with the device, the animal is trained to stay away from it and from the location associated with it. The sheet of adhesive material can be cut to the desired shape to conform to the particular needs of the area or object selected for protection.

Various other purposes and advantages of the invention will become clear from its description in the specification that follows and from the novel features particularly pointed out in the appended claims. Therefore, to the accomplishment of the objectives described above, this invention consists of the features hereinafter illustrated in the drawings, fully described in the detailed description of the preferred embodiment and particularly pointed out in the claims. However, such drawings and description disclose but one of the various ways in which the invention may be practiced.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a cross-sectional view of a representative portion of the sheet material of the invention.

FIG. 2 is a perspective partial view of the preferred embodiment of the invention in roll form.

FIG. 3 is a perspective view illustrating the use of the invention in a typical household setting.

DETAILED DESCRIPTION OF THE INVENTION

The thrust of this invention lies in the recognition that any restraint in the freedom of movement of an animal's legs and feet is a source of great discomfort and irritation that the animal will go to great lengths to avoid. This is particularly true of cats, who are known for their abhorrence of anything affecting their freedom of movement. Therefore, this feature is exploited to create a simple apparatus that can be used to train a pet by negative reinforcement to associate that discomfort with a specific location desired to be kept off-limits. Thus, the apparatus is used not only to achieve immediate deterrent results, but also to condition the animal to avoid future discomfort by staying away from the prohibited area. By manufacturing the apparatus with transparent, almost invisible, material, the animal associates the discomfort more with the place than with the apparatus itself, so that it continues to avoid the area even when the invention is no longer in use.

Referring to the drawings, wherein like parts are identified with like numerals and symbols throughout the specification, FIG. 1 illustrates the way the sheet

material 10 of the invention is constructed. Seen in cross-sectional view, the invention consists of a continuous sheet 12 of preferably flexible material covered on both sides with layers 14 and 16 of adhesive substances. The sheet 12 is also preferably transparent in order to permit its inconspicuous use over color floors or on fixtures and furniture; flexible plastic material such as vinyl plastic is ideal as a substrate because of its ability to conform to any surface without the need to use permanently pre-shaped rigid sheets. The layers of adhesive 14 and 16 consist of transparent sticky glue of the type normally referred to as pressure sensitive, such as is found on removable labels and decals. These adhesives are characterized by having a tacky feel at the touch that becomes more sticky when pressure is applied to them; they can then be peeled off and reused without leaving a residue on the surface to which they adhered. As a result, these adhesives can be handled easily and provide an ideal material to implement the concept of this invention.

In the preferred embodiment, the top layer 14 consists of stronger adhesive than the bottom layer 16. Because its effectiveness is measured by the degree to which the layer will stick to the paws of an intruding pet, which cover a very limited area of contact, the top layer 14 must be sufficiently strong to adhere to them when the pet steps on it. On the other hand, the bottom layer 16 presses against the entire area of contact with the underlying supporting surface, and thus requires less adhesive strength for adhesion and stability. It is found that the pressure sensitive adhesive sold by Catalina Pressure Sensitives Company of Sun Valley, Calif., as Product No. AWB322 is suitable for the requirements of the bottom layer 16, while the product sold by Catalina Plastic and Coating Corporation of Calabasas, Calif., as Part No. P2067 is suitable for the top layer 14. These layers are formed by coating the sheet 12 either by rolling or spraying the adhesives over its opposite surfaces. A layer of non-sticky material may also be adhered to one side of the sheet material 10 as a protective backing.

According to the best mode of practicing the invention, the coated sheet material 10 is manufactured in a roll 20 for ease of storage and transportation. As in the case of carpets and other large-surface flexible material, the use of rolls makes it possible to have wide surfaces available for custom fitting the geometry of the area to be protected. An intermediate layer of non-sticky backing material 18 can be incorporated into the roll to avoid bonding between the adhesive surfaces. Given the pressure-sensitive nature of the layers of adhesive coating the top and bottom of the flexible sheet 12, the two layers are then easily separated by peeling off the intermediate backing material shown at the outside fold of the roll, in much the same way that regular double-sided tape is peeled off its roll. Thus, in operation, the double-sided adhesive material of the invention is peeled off the roll 20 and cut to conform to the area for which it is intended. The material is then laid down with its bottom layer 16 facing the supporting surface, to which it will stick to form a forbidden area of intrusion for the target animal. If the materials constituting the sheet 12 and the adhesive layers 14 and 16 are transparent, the apparatus of the invention will blend into the background of its surroundings and be almost invisible to an observer. Thus, when the animal first steps on it accidentally, it will cause the intended discomfort and reaction, which the animal will associate not only with

the sticky surface but also with the specific location where it is placed. Soon the animal will avoid that location and it is found that the behavior continues even after the repelling apparatus is removed. Therefore, the invention is effective both for the immediate result of forcing the animal to stay away from a given area and for long-term training to achieve the same result even without its use.

FIG. 3 is an illustration of how the sheet material 10 of the invention might be used to keep a cat C away from a plant P placed on the floor F in a corner of a room between two walls W. The material 10 is shown as not transparent in order to better illustrate its placement on the floor. The sheet material is cut to the right size to cover an area going from wall to wall, corresponding to the boundary of the prohibited area and wide enough that the cat would not be likely to accidentally miss it in approaching the plant. For example, a width of approximately 12 inches is sufficient to deter average size house cats. The backing 18 is peeled off, and the material is then placed down firmly with the adhesive bottom layer 16 facing the floor downward, so that it adheres in place with the adhesive top layer 14 facing up, so that it is exposed to the cat. As the cat steps on it, the top adhesive layer 14 sticks to his paws, causing him great irritation that forces him away.

Various changes in the details, steps and materials that have been described may be made by those skilled in the art within the principles and scope of the invention herein illustrated and defined in the appended claims. Therefore, while the present invention has been shown and described herein in what is believed to be the most practical and preferred embodiments, it is recognized that departures can be made therefrom within the scope of the invention, which is therefore not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent apparatus and methods.

What I claim is:

1. A method for repelling and training a ground animal to stay away from a selected area, comprising the following steps:

- (1) providing a sheet material with a first layer of pressure sensitive adhesive covering the top surface and a second layer of pressure sensitive adhesive covering the bottom surface thereof, said sheet material further having a non-sticky backing material adhered to said second layer of pressure sensitive adhesive;
- (2) cutting said sheet material to conform to the shape of the boundary of the selected area and peeling off said non-sticky backing material; and
- (3) attaching the sheet material to a supporting surface at the boundary of the selected area with said second layer facing down and adhering to the supporting surface, and with said first layer facing up, so as to cause irritation and discomfort to an animal stepping on it.

2. The method described in claim 1, wherein said sheet material is flexible.

3. The method described in claim 1, wherein said sheet material is transparent.

4. The method described in claim 1, wherein said sheet material is flexible and transparent.

5. The method described in claim 1, wherein said sheet material is made with vinyl plastic.

6. The method described in claim 5, wherein said vinyl plastic is flexible and transparent.

7. The method described in claim 1, wherein said first layer of pressure sensitive adhesive covering the top surface of said sheet material is stronger than said second layer of pressure sensitive adhesive covering the bottom surface of said sheet material.

8. The method described in claim 7, wherein said

sheet material consists of flexible and transparent vinyl plastic.

9. The method described in claim 1, wherein said sheet material is made available in a roll.

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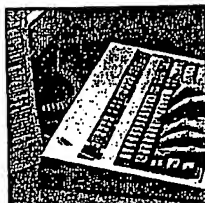
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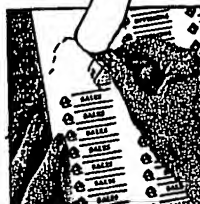
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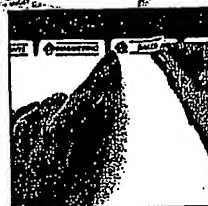
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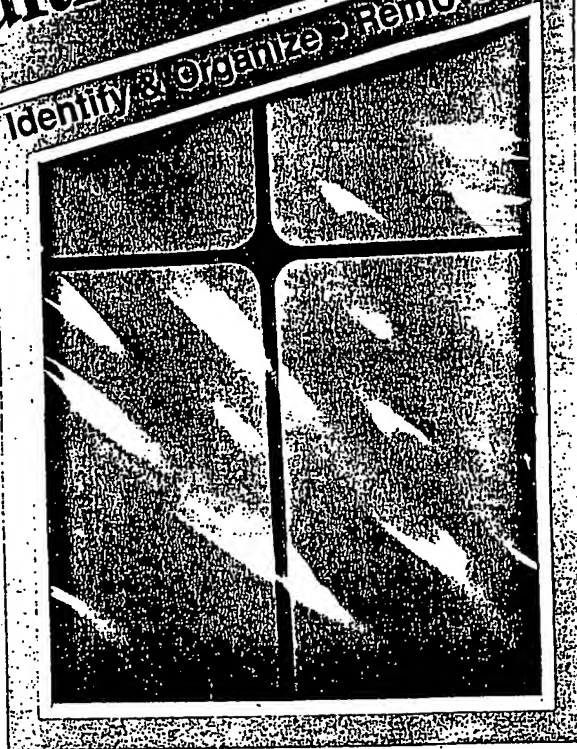
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RELATED PROCEEDINGS APPENDIX

None.